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## Attachment-System Activation in Young Offenders using a Mental Simulation Task

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**Volume I**

**Main Research Project  
and  
Service Evaluation Project**

**Sorcha Mathews**

Thesis submitted in partial fulfilment of the degree of Doctorate in  
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Institute of Psychiatry, King's College London

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Attachment-System Activation in Young Offenders using a Mental Simulation Task

**Supervised by Drs Lucia Valmaggia and Vyv Huddy**

### **Service Evaluation Project ..... 151**

A South London Support and Recovery Team survey of carers' support and mental health needs when caring for a person with psychosis including the proposal of a new psychological intervention

**Supervised by Dr Sarah Grice**

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**Attachment-System Activation in Young Offenders using a Mental  
Simulation Task**

**Supervised by Drs Lucia Valmaggia & Vyv Huddy**

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## **0 Abstract**

There has been a call for research that investigates the adaptive attachment styles of young people who enter into the criminal justice system (Casswell et al., 2012) as a means to understand their problematic behaviour and risk to mental health issues. There has also been a call for further measures of attachment working models (Pietromonaco & Barrett, 2000) but little investigation into how to operationalise this. This study was a cross-sectional within-participants design that examined the reliability of using a mental simulation task (Huddy et al., 2012) to explore individual differences in attachment styles, as measured by the Psychosis Attachment Measure (PAM; Berry et al., 2006) in a young male offender population (n=55) who were incarcerated. Negative life events from infancy to young adulthood have been shown to increase the likelihood of individuals developing and maintaining an insecure attachment pattern (Hamilton, 2000) as well as increasing the likelihood of an individual attachment pattern changing from a secure to an insecure style (Waters, Weinfield & Hamilton, 2000). As such, participants' experience of Adverse Childhood Experiences (ACEs) was also explored as a means to triangulate the findings on the PAM and mental simulation task. To our knowledge, this was the first time these factors have been examined together in this population. Non-parametric correlations revealed a significant relationship between attachment anxiety, but not attachment avoidance, and both negative and positive intent. No relationship was found between distress ratings and either attachment anxiety or avoidance. Higher incidents of ACEs was found to be associated to attachment avoidance and to negative intent ratings but not to attachment anxiety. The results do not support the use of the mental simulation task as a measure of internal working models of attachment; limitations of the study and its implications in relation to attachment theory and clinical work with young offenders are discussed.

## **1 Introduction**

There has been a call within the literature for a better understanding of attachment patterns within young offenders as a means to further understand their problematic behaviour and risk of mental health difficulties (Casswell et al., 2012). Within the field of attachment there has also been a call for new measures of attachment that focus on internal working models of attachment outside of the context of romantic relationships (Pietromonaco & Barrett, 2000). The current study sought to examine the possibility of using a novel means of measuring internal working models of attachment by using a simulation task (Huddy et al., 2012) that yields measures of intent.

The introductory section begins by introducing the main concepts of Bowlby's (1969, 1973, 1980) attachment theory as a means to inform the reader of the rationale within the clinical field for using an attachment framework when considering mental health difficulties. As such, attachment theory, including the attachment behaviour system, individual differences in attachment behaviour and how researchers have measured attachment in both children and adults will be presented. Bowlby's concept of internal working models is also explored before considering research that has shown how internal working models may influence everyday reasoning. Clinical applications of attachment theory will also be briefly presented. Young offenders and their mental health needs will then be explored in relation to the relevant attachment literature. The rationale for considering a mental simulation task as a novel means of exploring the concept of internal working models will then be presented prior to the chapter concluding with the study aims and hypotheses.

## **1.1 Attachment theory – Basic concepts and principles**

### **1.1.1 The attachment behaviour system**

John Bowlby, (1907-1990), a British psychoanalyst, originally developed the theory of attachment as an attempt to understand the intense distress experienced by infants who had been separated from their caregivers. Bowlby (1977) observed that when separated from their primary caregivers, infants would go to great lengths (e.g. crying and calling, following and clinging, and strong protest) to re-establish proximity with said caregiver if left alone or with a stranger. Bowlby (1969) also observed that these expressions of distress were not unique to humans, but also evident in a wide variety of mammals, and as such may serve an evolutionary function. Drawing on both his background in psychoanalytic theory as well as ethological and control theory Bowlby (1977) suggested that attachment behaviours were adaptive responses to separation from the principal caregiver (Ainsworth, 1979). The function of these behaviours was understood as a means for the infant to seek care and protection from a preferred adult (Bowlby, 1977) as it encourages proximity maintenance between an infant and said preferred adult that allows for the creation of a safe and secure environment for the infant to develop outside of perceived conditions of danger and threat (Ainsworth, 1991).

Bowlby (1969, 1973, 1980) suggested that a motivational system, which he termed the attachment behavioural system, developed through natural selection to regulate proximity to an attachment figure. Within this system, if the attachment figure is experienced as close then the child will feel loved, secure and confident. This will be evident in the child's behaviour as they will explore their environment, play with others and be sociable (Bowlby, 1969, 1973, 1980). However, if the child is not reassured that the attachment figure is close they will experience anxiety and attachment behaviour will be evident, such as visual searching or crying. Bowlby (1969, 1973, 1980) suggested that proximity-seeking behaviours will continue until the child is reunited with their attachment figure

and/or the child gives up, as in the case of prolonged separation or loss. In the latter case, he believed the child would experience profound despair and depression (Bowlby, 1969, 1982).

### **1.1.2 Individual differences in attachment behaviour**

Bowlby's (1969, 1973, 1980) attachment theory outlined normative behavioural responses that infants and young children displayed when separated from their primary attachment figure. Although he also recognised individual differences in how children viewed their attachment figures and how they may respond to them in response to threat (Bowlby, 1969, 1973, 1980), his colleague, Mary Ainsworth (1913-1999), is recognised for having delineated these individual differences (Bretherton, 1992). Ainsworth developed the Strange Situation, a laboratory-based paradigm whereby infants' behaviours were observed during two brief separations from, and reunions with, their primary caregiver (Ainsworth & Bell, 1970). Within this situation, infants were observed to display three patterns of behaviour. Most infants behaved, according to Bowlby's (1973, 1980) normative attachment behavioural system, by showing distress when separated from their caregiver but being easily comforted when reunited with them. This pattern of behaviour was considered to represent a *secure attachment* in the infant (Ainsworth & Bell 1970; Ainsworth, Blehar, Waters & Wall, 1978). Other infants were seen to be ill at ease prior to the separation, became highly distressed when separated and were difficult to comfort upon being reunited with their caregiver. These infants also showed conflicting behaviours when reunited with their caregiver: on the one hand they wanted to be comforted and on the other they would push away from their caregiver, as if wanting to punish them. This pattern of behaviour represented an *anxious-resistant* insecure attachment in the infant (Ainsworth & Bell, 1970; Ainsworth et al., 1978). A further subset of infants did not show distress when separated from their caregiver and did not seek proximity with them when reunited. This pattern of behaviour was seen to represent an *anxious-avoidant* insecure attachment in the infant (Ainsworth & Bell, 1970; Ainsworth et al., 1978). In later research (e.g. Main & Solomon, 1990) a fourth

style of attachment behaviour was also categorised in infants and was seen to represent a *disorganised* insecure attachment in the infant. These infants showed a confused and inconsistent pattern of behaviour, sometimes seeking proximity, other times seeming disinterested in their caregiver, but also displaying confusion or apprehension towards their caregiver (Main & Solomon, 1990).

The Strange Situation procedure has come to be known as the ‘gold standard’ measure of attachment security associated to the caregiver-child relationship in early life (Rutter, Kreppner, Sonuga-Barke, 2009). However, there is ongoing debate as to its clinical utility as it is only found to satisfactorily assess attachment in the first two to three years and furthermore it has been argued that attachment security/insecurity is of limited psychopathological significance (Rutter et al., 2009). Nonetheless, the attachment concepts of insecurity and internal working model, as well as the Strange Situation paradigm (Ainsworth & Bell, 1970), are considered useful guides to thinking about social relationships (Rutter et al., 2009); and deficits in the ability to form and maintain social relationships have been associated to mental disorder (Deklyen & Greenberg, 2008).

### **1.1.3 Internal working models of attachment**

According to Bowlby’s attachment theory (1969, 1973, 1980), children, over time, internalize experiences with their primary caregivers in such a way that early attachment relations come to form a prototype for later relationships outside the family (Bartholomew & Horowitz, 1991). These early experiences lay the foundations for an individual’s internal representations of attachment relationships throughout the life span (Mikulincer, 1998). Following on from the concept proposed by the philosopher and cognitive psychologist Kenneth Craik (1943, cited in Atkinson et al., 2000), who postulated that ‘the organism carries a small-scale model of external reality and its own possible actions within its head’ (p.61), Bowlby (1969, 1973, 1980) suggested that individuals construct models of the world, significant person’s within it, and the self as they develop. In respect to

an infant's model of their primary attachment figure, Bowlby (1969, 1973, 1980) termed this the *internal working model of attachment relationships*.

As noted by Waters (1994), the notion of internal working models or representations is important to attachment theory for several reasons. Firstly, internal working models explain how early experiences effect later behaviour and development. Secondly, internal working models explain how an individual's subjective view and experience, influenced by their own thoughts, feelings and emotions, rather than the objective features of experience, influence behaviour and development. Thirdly, Waters (1994) explains that Bowlby (1969, 1973, 1980) viewed internal working models as explaining attachment responses in novel situations, therefore acting as an appraisal system and a guide to future behaviour. Fourthly Waters (1994) suggests that Bowlby (1969, 1973, 1980) understood internal working models as a way of explaining individual differences apparent in children. Therefore the mental representation the child holds of their attachment figure provides a model of attachment that ties the child to their caregiver across space and time (Waters, 1994). Thus, although internal working models are a conceptual as opposed to a functional explanation of attachment behaviour (Bretherton, 1995), they allow for a life-span perspective (Crowell & Treboux, 1995).

#### **1.1.4 Attachment styles across the life-span**

While Bowlby (1977) explained that attachment behaviours were especially evident in early childhood he also suggested that they characterise human behaviour 'from the cradle to the grave' (p. 203). Hazan and Shaver (1987) began to explore the possibility that romantic love in adults is also an attachment process. In their initial studies, they used questionnaires whereby infant attachment behaviours were translated into adult romantic love behaviours (Hazan & Shaver, 1987). They found that the relative prevalence of the three attachment styles, as outlined by Ainsworth and her colleagues (Ainsworth & Bell, 1970; Ainsworth et al., 1978), were roughly the same in adulthood as in infancy (Hazan

& Shaver, 1987). They also noted that the three styles of adult attachment differed predictably in the way they experienced romantic love. Finally, they found that adult attachment styles were related in theoretically meaningful ways to mental models of self and social relationships and to relationship experiences with their own primary caregivers (Hazan & Shaver, 1987).

Bartholomew and Horowitz (1991) went on to consider adult attachment styles based on two types of internal working model, that of self and of others, which could be dichotomized as positive or negative to yield four theoretical adult attachment styles; namely, secure (positive self, positive other), preoccupied (negative self, positive other), dismissive (positive self, negative other) and fearful (negative self, negative other).

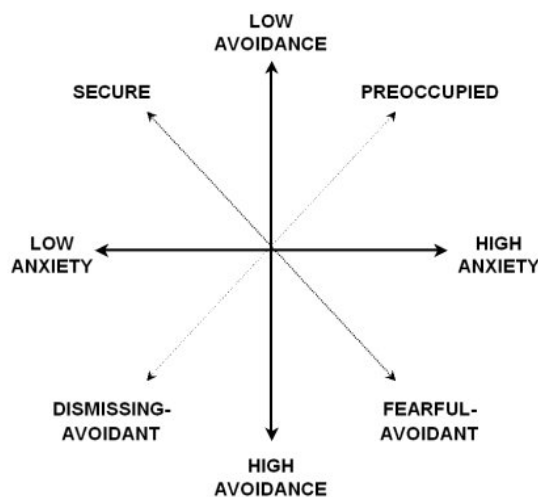
		Thoughts of Self	
		Positive	Negative
Thoughts of Partner	Positive	<b>Secure</b> Comfortable with intimacy and autonomy	<b>Preoccupied</b> Preoccupied with relationships
	Negative	<b>Dismissive</b> Dismissing of intimacy Strongly independent	<b>Fearful</b> Fearful of intimacy Socially avoidant

Figure 1. Four Category Model of adult attachment (Bartholomew & Horowitz, 1991, p.227).

Brennan, Clark and Shaver (1998) further developed Bartholomew and Horowitz's (1991) categorisations of attachment styles concluding that there are two orthogonal dimensions of adult attachment: *anxiety* and *avoidance*. They suggested that high levels of either or both dimensions represent an insecure adult attachment style. On the other hand, a secure adult attachment style would be represented by low levels of attachment anxiety and avoidance (Brennan, Clark & Shaver, 1998; Mallinckrodt, 2000). Within this dichotomous view of adult



attachment the internal working model of self is viewed as ‘either worthy or unworthy of comfort and care’ and the internal working model of other is viewed as ‘generally benevolent and helpful or disappointing and harmful’ (p. 246, Mallinckrodt, 2000). Based on this premise, Vogel and Wei (2005) suggest that adult attachment anxiety can be understood as seeking excessive approval from others and fearing rejection and abandonment, whilst adult attachment avoidance can be understood as an excessive need for self-reliance and the fear of depending on others.



*Figure 2. The two-dimensional model of individual differences in adult attachment (Bartholomew, 1990).*

Research to date has therefore broadly characterized patterns of attachment as either secure or insecure (Ainsworth et al., 1978; Brennan, Shaver & Clark, 1998; Crowell & Treboux, 1995). Furthermore, attachment patterns are considered to be relatively stable across time within the general population (Main & Cassidy, 1988, Waters, Crowell, Treboux, Merrick & Albersheim, 1995; Waters, Weinfield & Hamilton, 2000). Changes in attachment patterns are, however, evident during childhood when there is a change in the caregiver-child interaction, such as when a child loses a parent through death (Bowlby, 1969, 1973, 1980). Meaningful changes in the child’s environment can therefore create meaningful changes in the child’s attachment security (Waters et al., 2000). In a twenty-year longitudinal

study of attachment security in infancy and early adulthood, Waters, Treboux, Crowell and Albersheim (2000) found that negative life events were an important factor in changes within attachment patterns of individuals. Within this study, negative life events were defined as loss of a parent; parental divorce; life-threatening illness of parent or child (e.g. diabetes, cancer, heart attack); parental psychiatric disorder; and, physical or sexual abuse by a family member. The study found that 44% of individuals whose mothers reported negative life events changed attachment classification as opposed to 22% of individuals whose mothers did not report any such events (Waters et al., 2000). Furthermore, they noted that negative life events were significantly related to the likelihood of secure infants becoming insecure in adulthood (Waters et. al., 2000). However, in a similar study reporting the continuity of attachment from infancy through adolescence, Hamilton (2000) reported ‘some’, but not a significant, relationship between stressful life events, as defined by Waters et al. (2000), and changes in attachment patterns. Hamilton (2000) did note, however, that adolescents who retained an insecure attachment from infancy were more likely to have experienced negative life events, suggesting an early trajectory pathway of insecure attachment in adolescents.

Bowlby (1988) also suggested that changes could occur in adult attachment if an individual experienced new emotional relationships that allowed for a shift in their internal working models of attachment. For instance, marriage or parenthood, if experienced favourably by the adult, can lead to positive revisions of earlier insecure attachment styles (Mikulincer, 2007). Mikulincer (2007) reviewed 30 published studies examining the stability of adult attachment patterns over 2, 4 or 6 years and found a test-retest correlation of 0.56 which he suggested showed there is ‘considerable room for change’ (p. 141). Mikulincer (2007) also pointed out that fluctuations in adult attachment patterns would suggest internal working models are being updated based on new attachment experiences and that if this were not the case ‘psychotherapy [...] would be fruitless’ (p.145).

#### **1.1.4 Measures of adult attachment**

Measuring infant attachment security is easily observable in naturalistic and laboratory situations (Crowell & Treboux, 1995). However, comparative to infant attachment security, which is readily provoked through such paradigms as the strange situation (Ainsworth & Bell, 1970) and expressed through action rather than language, adult attachment behaviour is not as easily assessed (Crowell & Treboux, 1995). This is in part because the adult-adult as opposed to adult-child attachment relationship is reciprocal (Crowell & Treboux, 1995). As such adults should display attachment behaviour towards the other adult but also serve as an attachment figure to the other adult (Crowell & Treboux, 1995). In general, researchers have sought to focus on individual adult attachment as opposed to measuring the reciprocal adult-adult attachment that is present in adult partnerships (Hazan & Shaver, 1994). There are two fundamental principles that are assumed and are relevant to the measurement of adult attachment (Crowell, Fraley & Shaver, 1999; 2008). Firstly, attachment systems are normative and relevant to the development of all people and active throughout the lifespan. Secondly, there are observable and measurable differences of how attachment behaviour is expressed in the context of attachment relationships (Crowell et al., 1999; 2008). As opposed to laboratory observations of attachment behaviour, adult attachment literature has focused on research using language and perception through interviews, such as the Adult Attachment Interview (AAI; Main & Goldwyn, 1984) and self-report measures such as the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991). Attachment measures have also developed to be used within clinical populations, such as the Psychosis Attachment Measure (PAM; Berry, Wearden, Barrowclough & Liversidge, 2006).

The ability of these measures to accurately capture an individual's working model of attachment has raised debate within the literature as to whether they reflect interpersonal dispositions or account more for ways individuals act in close relationships (Pietromonaco & Barrett, 2000). This tension may account for some

of the inconsistencies that exist within research findings (Pietromonaco & Barrett, 2000). For instance, in a review of attachment measures in adolescence and adulthood Crowell et al., (1999; 2008) noted that studies of adult attachment often use more than one measure to tap into a variety of relational domains (e.g., parents, peers, or romantic partners) and use different methods (e.g., coded interviews or self-report questionnaires). They remarked that associations between adult attachments within different domains (e.g., parental versus non-parental or romantic attachment figures) have a correlation of about 0.23 (Crowell, et al., 1999; 2008). However, the correlation increases when similar methods of attachment measurement are used ( $r = 0.31$ ) and lower when different techniques are used (interview versus self-report,  $r = 0.15$ ) (Crowell, et al., 1999; 2008).

These findings are in keeping with the childhood attachment literature whereby different attachment patterns are evident when young children are observed with mother or father (Main & Weston, 1981), despite some overlap (Fox, Kimberly & Schafer, 1991). As already noted, changes in attachment classification from infancy to adolescence have also been reported when significant changes in a child's environment occur following negative life events, such as parental divorce or parental substance misuse (Hamilton, 2000). Furthermore, within the developmental attachment literature there is a growing consensus that attachment security/insecurity is only one aspect of childhood attachment (see Rutter et al., 2009 for a full review). As noted by Rutter et al. (2009), Bowlby's attachment theory emphasised that 'attachment did not constitute the whole of social relationships; rather it picked out one aspect of particular importance and interest' (p. 539). More recent reviews of attachment measures (e.g. Fraley & Spieker, 2003; Main et al., 2005) have favoured dimensional approaches to delineating attachment styles (e.g. RQ; Bartholomew & Horowitz, 1991) as opposed to categorical groups such as originally proposed by Ainsworth in the Strange Situation (Ainsworth et al., 1978). Furthermore, Crowell et al. (1999; 2008) caution that researchers need to consider the assumptions that a specific

attachment measure makes in relation to attachment theory, and consider which relationships are under investigation before adopting a particular attachment measure as they may be targeting different constructs.

Not only has there been a call for research that better understands how the different attachment measures work and why or what they are measuring (Crowell et al., 1999; 2008), Pietromonaco and Barrett (2000) have argued that there is a need for research that studies the underlying structures of internal working models as the foundation for understanding how attachment processes operate in adult relationships. They suggest that self-report measures are ‘prone to biased or self-protective judgements’ (p. 158) and they argue that there is a need for research that taps directly into internal working models in action (Pietromonaco & Barrett, 2000). That is, they argue for research that is able to specify ‘the relational and situational conditions under which working models are most influential’ (Pietromonaco & Barrett, 2000; p. 170). More specifically they point to a need for future research that not only looks at relationship-specific but also more general conditions under which internal working models are activated (Pietromonaco & Barrett, 2000).

#### **1.1.5 An Attachment-system activation model**

In attempting to unify the literature within adult attachment, Shaver and Mikulincer (2002; Mikulincer & Shaver, 2007) have proposed a model of attachment-system activation and dynamics that integrates the attachment literature proposed by Bowlby (1969, 1973, 1980), Ainsworth (1991) and later researchers (e.g. Cassidy & Kobak, 1988, Fraley & Shaver, 2000). They propose three major components to their model. Firstly, a system that appraises and monitors threat events, which relates to attachment *proximity-seeking*. This first stage activates the attachment system. Secondly, an attachment security system that appraises and monitors the availability of an internalised or externalised attachment figure, which they refer to as *security-based strategies*. This second

stage is related to individual differences in attachment security which are represented by the dimensions of attachment anxiety and attachment avoidance. Thirdly, they outline a coping system that monitors and appraises the viability of proximity seeking as a means of managing distress. They propose the third system accounts for secondary attachment strategies that individuals use when appraising and monitoring threat. Secondary attachment strategies include *hyper-activating strategies* (e.g. eliciting care from an attachment partner through clinging and controlling responses) or *deactivating strategies* (e.g. distancing oneself from an attachment partner to handle a stressful situation alone). *Hyper-activating strategies* are thought to be representative of adults who score high on attachment anxiety whereas *deactivating strategies* are representative of adults who score higher on attachment avoidance (Shaver & Mikulincer, 2002; Mikulincer & Shaver, 2007).

Mikulincer and Shaver (2007) suggest this model is influenced by both bottom-up and top-down processes. Bottom-up processes are context specific and include: perceiving danger or threat; assessing the availability of an attachment figure, as an internal mental representation or an external figure; and, seeking proximity and protection from an attachment figure in the particular threat situation. As an example, Mikulincer and Shaver (2007) describe that someone who is chronically insecure can momentarily be soothed and act accordingly when they are reminded of a supportive behaviour on the part of a past or present attachment figure. Top-down processes, which are personality specific and related to an individual's attachment style are said to shape the functioning of the attachment-system (Mikulincer & Shaver, 2007). For instance, Mikulincer and Shaver (2007) suggest that a chronically anxious person will see threat everywhere and they will remain vigilant to unresponsiveness from attachment figures. This then leads to their attachment system being hyper-activated (Mikulincer & Shaver, 2007). As with children, they suggest that the attachment-system is activated any time there is a perceived threat, be it psychological or actual. Furthermore, the attachment-system is subjectively appraised, and thus influenced by an individual's

dispositional attachment style, as measured on the dimensions of attachment anxiety and attachment avoidance (Mikulincer & Shaver, 2007). Finally, much as Bowlby (1969, 1973, 1980) saw proximity seeking as an infant's primary, innate, strategy for regulating affect, Shaver and Mikulincer (2002; Mikulincer & Shaver, 2007) put forward the idea that hyper-activation and deactivation are secondary emotion-regulation strategies that develop dependent on an individual's dispositional attachment style.

#### ***1.1.5.1 Attachment system activation, emotion dysregulation and psychopathology***

If the attachment system activation model is proposed, in part, as an emotion-regulation strategy then some consideration should be given to the impact of emotion regulation or dysregulation and psychopathology. Emotion dysregulation has been found to be associated to more than 75% of the diagnostic categories of psychopathology in the Diagnostic and Statistical Manual of Mental Disorders (Youth edition [DSM-IV]; APA 1994; Werner & Gross, 2010) and has been described as 'a hallmark of psychopathology' (p. 174; (Beauchaine, Gatzke-Kopp & Mead, 2007). Difficulties in regulating one's emotions has been suggested as central to understanding both depressive and anxiety disorders (e.g. Campbell-Sills & Barlow, 2007; Mennin, Holoway, Fresco, Moore, & Heimberg, 2007) as well as eating disorders (e.g. Polivy & Herman, 1998, 2002) and alcohol abuse (e.g. Sher & Grekin, 2007). In a meta-analytic review of emotion-regulation strategies, Aldao, Nolen-Hoeksema and Schweizer (2010) found that maladaptive strategies such as rumination, avoidance and suppression were associated with more psychopathology and the power of these relationships varied dependent on specific disorder (e.g. rumination had a large effect size with anxiety and depression but only a medium effect size for eating disorders and alcohol abuse).

From an attachment theory perspective, the healthy development of emotion regulation in children has been associated with attachment security (Waters et al., 2010) and proponents of attachment theory have suggested that insecurity in attachment leads to emotion regulation strategies that are in keeping with the

infant-primary caregiver relationship (Cassidy, 1994). That is, anxious-avoidant infants who have experienced rejection from their primary caregiver may minimize negative affect to avoid the risk of further rejection. Conversely, anxious-ambivalent infants may maximise negative affect (e.g. crying) as a means to gain attention from the perceived ambivalent caregiver (Cassidy, 1994). However, as noted by Werner and Goss (2010), infant emotion regulation strategies that were once functional may prove less helpful in adulthood. For example, Mikulincer and Shaver (2007) note that someone who has developed avoidant/deactivating strategies (e.g. downplaying negative affect) as a child may find this to be a hindrance to them when developing adult intimate relationships later in life.

#### ***1.1.5.2 Attachment-system activation – empirical findings***

Attachment-system activation has been supported within studies of infants and young children and Mikulincer (2002) has remarked that infants show a preference for and show more intense protest when separated from their primary caregiver over other people when distressed (e.g., Ainsworth et al., 1978). Furthermore children with varying attachment histories construct their environment differently (Sroufe, Carlson, Levy & Dyron, 1998). For instance, Sroufe et al., (1998) reported that children with secure histories are less likely to attribute hostile intent in ambiguous social situations. These children are also more likely to resolve fantasised conflicts successfully and see themselves as connected to others, especially family members (Sroufe et al., 1998). These findings are in line with Bowlby's (1973) view that attachment security is fostered by positive interactions with available and responsive attachment figures during times of distress.

Within the adult literature, researchers have assessed the association between adult attachment security and proximity or support seeking from a relationship partner under threatening conditions (e.g. Simpson, Rholes & Nelligan, 1992; Fraley & Shaver, 1998). They found that securely attached individuals are more



likely than insecurely attached individuals to seek out support from their relationship partner (Simpson, et al., 1992; Fraley & Shaver, 1998). Mikulincer, Gillath and Shaver (2002) also investigated the effects of subliminal threat on the activation of representations of attachment figures in a series of three studies. Accessibility of attachment representations within threat situations was measured in a lexical decision task and a Stroop task following threat or neutral word primes and compared to the accessibility of representations of other close persons, and unknown persons. All participants reported on their attachment styles using the WHOTO scale (Hazan & Zeifman, 1994). They found that threat primes led to increased accessibility of representations of attachment figures in anxiously attached participants but inhibited accessibility of representations of attachment figures in participants with an avoidant attachment style (Mikulincer et al., 2002). They concluded that threatening contexts automatically activate cognitive representations of attachment figures and this suggests that mental representations, or internal working models, of 'people who are a source of comfort may be neurologically active and may preconsciously influence mental processes during situations where threat is perceived' (Mikulincer et al., 2002, p. 891).

Collins also (1996) examined attachment style differences in the perception of social events as a means to explore how working models of attachment influence both the explanation of attachment-relevant and irrelevant events and the attributions individuals make within these situations. Participants were asked to write open-ended explanations for these hypothetical relationship events (Collins, 1996). They were then asked to describe their feelings and behaviours in response to each event. The scenarios used by Collins (1996) were ambiguous in nature, with the potential of being given negative explanations, as research suggests working models are more likely to be activated by negative events (Weiner, 1985). The study tested the relative importance of attachment style and relationship quality to predicting each outcome (Collins, 1996). Participants were

also asked to rate the likelihood of each of their simulated scenario responses leading to conflict as well as their emotional responses if the scenario occurred.

Collins (1996) suggested that working models of attachment are important knowledge structures through which social events are filtered and understood. Collins anticipated that attachment-relevant events should therefore activate internal working models of attachment more readily than attachment-irrelevant events. The attachment-irrelevant events chosen were relationship events that could have alternate explanations that were not attachment-related explanations (Collins, 1996). For instance, one of Collins' attachment-irrelevant events asked the participants to explain why a partner was late for a date. It was suggested that although this may activate internal working models of attachment it could be better understood by perceptual biases such as sex-role stereotypes (e.g. 'she took too long to get dressed') or culturally shared beliefs (e.g. 'he was picking up flowers') (Collins, 1996).

Collins (1996) found that preoccupied participants explained attachment-relevant events as compared to attachment-irrelevant events with more negative intent and reported more emotional distress and conflict-inducing behaviours than secure participants. Secondly, it emerged that both attachment style and relationship quality predicted the participant's emotional responses (Collins, 1996). Collins (1996) concluded that individual differences in working models, that were assumed to be activated within the experimental procedure, played an important role in the participant's cognitive, emotional and behavioural response patterns. Within Collins' (1996) open-ended response paradigm, working models of attachment are therefore assumed to be accessible cognitive constructs that will be automatically activated in response to attachment relevant events (Collins & Read, 1994). These responses are considered to be automatic, outside of awareness and mediated by the subjective interpretation of the situation along with one's emotional response (Collins & Read, 1994, Collins, 1996). Collins (1996) thus suggested that working models of attachment are filters through

which social events are understood and individuals will therefore interpret social events in ways that are consistent with their pre-existing beliefs and expectations based on their own attachment lens.

Taken together, Collins' (1996) and Mikulincer et al.'s (2002) studies suggest internal working models are activated within attachment-relevant situations and shape how individuals respond to and explain these situations consistent with their individual attachment style. These are in line with Bowlby's (1973) original concept of internal working models which he suggested had an evolutionary adaptive function. As Bretherton, Ridgeway and Cassidy (1990) eloquently stated '[t]he more adequately internal working models can simulate relevant aspects of the world, the better the potential planning and responding capacity of an organism' (p.274). It can therefore be inferred that simulation of future attachment-relevant events is influenced by an individual's internal working models.

#### **1.1.6 Attachment system activation and mental simulation**

Mental simulation is understood as the cognitive construction of hypothetical scenarios (Escalas, 2013). It is an imitative representation of an event or series of events that are constructed hypothetically (Taylor & Schneider, 1989). The 'what if' quality of simulation can enable an individual to rehearse the likelihood of future events and re-experience or reconstruct past events (Escalas, 2013). Simulation is understood to be influenced by recollections of earlier events in one's life, that is, autobiographical memories (Baddeley, 1990). However, although mental simulation is conceptualised as an explicit conscious process that relies, in part, on imagery and working memory, some aspects of simulation rely on implicit, non-imagery processes (Moulton & Kosslyn, 2009). Neurocognitive research has now revealed that there are striking similarities underlying the processes of remembering past events and imagining or simulating future ones, including the finding that both memory and imagination pathways share similar

brain networks (Schacter et al., 2012). They suggest that being able to simulate imaginary future events by recalling past ones may be an adaptive function of memory (e.g. Schacter & Addis, 2007) and is strikingly similar to Bowlby's (1969, 1973, 1980) concept of internal working models. Furthermore, within the field of neuroscience research (e.g. Gallese & Goldman, 1998), *simulation theory of mind* research points to the idea that human's possess mirror-neurons to allow human's the capacity to understand another humans' perspective by simulating that perspective within their own mind (i.e. through their mirror-neurons). Within this perspective, the simulation routine is seen as an evolutionary adaptive process, also much like Bowlby's (1973) conceptualisation of internal working models. One finding of interest to the current study is that individuals who habitually use suppression to regulate their emotions, as is evident in those with avoidant attachment patterns (Fraley & Shaver, 1997), experience fewer sensory, contextual, and emotional details when representing both past and future events (D'Argembeau & Van der Linden, 2006).

Within this line of research, and drawing on the heuristics in thinking and judgement work by Kahneman and Tversky (1982), Brown, MacLeod, Tata and Goddard (2002) developed a methodology for studying the dynamic aspects of ongoing thought processes. They examined the potential role of the simulation heuristic (Kahneman and Tversky, 1982) in worry about future outcomes tapping into real-world reasoning (Brown et al., 2002). Kahneman and Tversky (1982) note that the simulation heuristic describes the process of constructing a mental model of reality in which a hypothetical event takes place, where the ease with which the model can be constructed determines the subjective probability judgement for the event. Following on from this, Brown et al.'s (2002) study asked women who were pregnant for the first time to mentally simulate going into labour and arriving at the hospital on time (the desired outcome). The resulting narratives were coded by defining dimensions of the simulation heuristic (e.g., temporal flow, minimization of certainty) as a measure of Goodness of Simulation (GOS). Their prediction that higher scores on the GOS would lead to higher

subjective probability and less worry was supported. They concluded that this approach to measuring on-going processes can enhance understanding of how simulation of future outcomes relates to worry and the subjective probability of outcomes (Brown et al., 2002).

Following on from Brown et al.'s (2002) study, Keen, Brown, and Wheatley (2008) used the same methodology to explore whether the simulation heuristic (Kahneman & Tversky, 1982) may shed light on why the obsessions of people with obsessive-compulsive disorder (OCD) are so compelling to them. It was suggested that simulation of personally relevant situations would enable exploration of an individual's idiosyncratic and subjective experience of their OCD. They found that personally relevant scenarios, as measured by the Events Ranking Questionnaire (ERQ; Keen et al., 2008), that were closely aligned with the individual's symptom-related concerns were better simulated and associated with more worry than scenarios rated as less personally relevant. They concluded that imagination and imaginary narratives, that by definition are simulated, are important in fuelling OCD symptoms (Keen et al., 2008).

Also based on Brown et al.'s (2002) methodology of studying dynamic aspects of on-going thought processes Huddy, Brown, Boyd and Wykes (2012) looked at the ability of paranoid individuals to construct explanations for everyday situations and whether these modulate their emotional impact using a mental simulation task. The scenarios used within their study were drawn from personal descriptions of paranoia in a previous study of individuals who had experience of clinical paranoia (Boyd & Gumley, 2007). Huddy et al. (2012) expected that paranoid individuals would produce higher likelihood ratings for negative intention scenarios and conversely healthy controls would produce more coherent responses featuring the positive intentions of others. Furthermore, worry ratings were anticipated to align with the affective content of the scenario so that well-formed accounts of negative material led to greater worry with the opposite being true of positive material. Although they did not find that clinical participants

produced more coherent narratives for negative intention than healthy controls, clinical participants did produce less coherent narratives in response to paranoid themes when featuring positive content. They concluded that difficulty in scenario construction might exacerbate paranoia by reducing access to non-threatening explanations for everyday events, which may increase distress.

Taken together, these studies (Brown et al., 2002; Keen et al., 2008; Huddy et al., 2012) lend support to the idea that the process of simulating imaginary future events is influenced by the recall of past events (Schachter & Addis, 2007). Furthermore, these studies suggest that individual differences in both cognitive and affective processes influence the simulated narratives of future events. More specifically they suggest that the measurement of on-going cognitive processes can enhance the understanding of how simulation of future outcomes relates to worry and the subjective probability of outcomes (Brown et al., 2002). Furthermore, the more personally relevant a hypothetical distressing scenario is the better it will be simulated and induce associated worry (Keen et al., 2008). Therefore, these findings also lend support to Bowlby's (1969, 1973, 1980) suggestion that internal working models, developed through early experiences, influence an individual's thoughts, feelings and behaviours and may act as an appraisal system to guide future behaviour (Waters, 1994; Waters & Cunningham, 2000). As previously discussed, Collins (1996) also found that participant past events and the associated attachment styles, predicted emotional responses to future hypothetical (or simulated), relationship events. Taken together, this line of research suggests a compelling argument for exploring the specific concept of internal working models being activated within future simulated events that are personally relevant and have the potential to elicit threat and distress but that are not, as in Collins' (1996) study, explicitly attachment-relevant.

#### **1.1.7 Clinical applications of attachment theory**

Although there is ongoing debate as to how to measure attachment patterns (Crowell et al., 1999; Pietromonaco & Barrett, 2000) it has nonetheless

contributed to clinical treatment approaches (Hoffman, Marvin, Powell & Cooper, 2006; van Zeijl et al., 2006) and has been studied as a client outcome variable of change as a function of treatment (Makinen & Johnson, 2006; Toth et al., 2006). Albeit extensive exploration of the influences that attachment theory has had on clinical practice is beyond the scope of the current study, Mikulincer (2007) summarises Bowlby's (1988) model of therapeutic change within clinical practice by stating that 'therapeutic outcomes depend on the extent to which pathogenic mental representations are identified, clarified, questioned, revised, and transformed into more adaptive models' (p. 406). Within this model, Bowlby (1988) views the therapist as a *secure base* from which the client can explore, reflect upon and, when possible, modify painful past experiences (Mikulincer, 2007).

As a clinical example, but by no means an exclusive phenomenology, within the field of psychosis an individual's attachment style has been suggested as a clinically relevant construct in relation to the development, course and treatment of psychosis (Korver-Nieberg, Berry, Meijer & de Haan, 2013). More specifically, it has been suggested that the attachment experience of individuals with psychosis is an important construct for understanding how social information is processed and how mentalization skills are developed within this population (Korver et al., 2013). It has also been highlighted as a useful framework in which to consider recovery within individuals with psychosis (Gumley, Taylor, Schwannauer & MacBeth, 2014). Gumley et al.'s (2014) systematic review of attachment and psychosis found that those with a secure attachment had better engagement and greater treatment adherence. Insecure attachment was found to be related to disengagement with treatment services and avoidant attachment was related to help seeking difficulties, poorer use of treatment, longer hospital admissions and lower-rated therapeutic alliance (Gumley et al., 2014). They also suggest that the attachment system is activated in the relationships that individuals develop with their service providers (Gumley et al., 2014). In line with Bowlby's (1969, 1973, 1980) attachment theory, Gumley et al. (2014) therefore note the

importance of services being aware of how these systems may be activated within individuals as a means to provide ‘an attuned response to the needs of individuals’ and establish ‘a safe haven and secure base for recovery’ (p. 270).

More generally within clinical practice, the United Kingdom’s government white paper, *No Health without Mental Health* (Prince et al., 2007), considers maladaptive attachment patterns as a predisposing factor to the development of mental health difficulties and this is noted to have implications in health care utilisation. For instance, anxious attachment styles in patients within a primary health-care setting has been associated to increased costs and service utilization as compared to those with avoidant attachment styles who underutilise the same services (Ciechanowski, Walker, Katon & Russo, 2002). Ciechanowski et al (2002) also suggest an attachment perspective has implications for the patient-provider relationship and health-care costs. These findings suggest that not only does attachment theory have implications on service delivery but it also has ramifications in respect to service costs.

#### **1.1.8 Brief critique of the attachment theory considered within the current study**

Attachment theory, as espoused by Bowlby, is credited with having brought valuable insight to the importance that social relationships play in development and differences in later relationships (Rutter, Kreppner, Sonuga-Barke, 2009). However, this has often been reduced to an understanding of attachment through a security/insecurity lens which is considered to have led to an ‘over-inclusive focus on this concept’ (p. 539; Rutter et al., 2009). As Rutter et al. (2009) note, the later inclusion of the ‘disorganised’ attachment style (Main & Solomon, 1986, 1990) and the introduction of the classification of reactive attachment disorder (APA, 1980) highlights the need to view attachments outside of the security/insecurity framework and take account of adverse psychosocial environments and genetic variables as a means of understanding social relationships, behaviour and the risk of psychopathology.



This point is further highlighted by Mikulincer and Shaver (2012) who have remarked that although attachment insecurity can be viewed as a general vulnerability to mental health difficulties, emphasis also needs to be placed on genetic, developmental and environmental factors that moderate the attachment-psychopathology relationship. For instance, they remark that other factors such as genetically determined temperament; intelligence; life history, including abuse, are also influential in the development of social relationships and the potential for psychopathology (Mikulincer & Shaver, 2012). Furthermore, as already noted, adverse life events, such as physical, psychological or sexual abuse during childhood, are contributing factors to the relationship between attachment insecurity and psychopathology (e.g. Whiffen, Judd & Aube, 1999). Research also suggests that psychopathology can increase attachment insecurity, whereby prior history of adverse life events or mental disorder are contributors (e.g. Solomon, Dekel & Mikulincer, 2008). Furthermore, of note and relevance to the current study is that although there has been a link suggested between attachment insecurity and youth offending behaviours, this is also influenced by environmental and/or social factors. That is, as remarked by Harris (1998), regardless of the quality of the parent-child relationship, if a child is raised in a crime-ridden area they will be more susceptible to criminal behavior because they are influenced by their peer group and their need to 'fit-in'.

## **1.2 Young offenders - mental health and attachment styles**

### **1.2.1 The mental health of young offenders**

Mental health problems often begin during adolescence and young adulthood (Patel, Hetrick & McGorry, 2007) and 75% of all mental illnesses are reported to emerge between the ages of 15 and 25 years of age (Kim-Cohen et al., 2003; Kessler, Chiu, Demler & Walters, 2005; Casswell, French & Rogers, 2012). Mental health difficulties in young people have been related, amongst other things, to lower educational achievements, substance abuse, violence and family relationship needs (Chitsabesan et al. 2006; Patel et al., 2007), which are also risks for increased offending behaviour in young people (Herrenkohl, 2000). In

line with this, young offenders are reported to have higher prevalence rates of mental health problems than young people in the general population (Kessler et al., 2005; Hayes & O'Reilly, 2013). For example, in a review of 1829 sentenced young people in Illinois, aged between 10 and 18 years of age, Teplin, Abram, McClellan, Dulcan and Mericle (2002) found that nearly two thirds of males ( $n=1172$ , 60%) met criteria for one or more psychiatric disorder, excluding conduct disorder, which is common amongst detained young people. In another study of the mental health needs of 301 young offenders in the United Kingdom, aged 13-18, Chitsabesan et al. (2006) found that nearly a third of participants (31%) had mental health needs in the areas of depression, anxiety, post-traumatic stress, psychosis, self-harm and hyperactivity. A similar percentage of the participants (29%) had significant needs in their family relationships, three-quarters (74%) came from families where the family structure had broken down and a third (37%) had spent time in care (Chitsabesan et al., 2006). It should be noted that higher rates of mental health difficulties than are present in the general population is not restricted to young offenders under the age of 18. It has been reported that 70% of the total British prison population have two or more mental health disorders (Social Exclusion Unit, 2004).

### **1.2.2 Attachment Patterns and Young Offenders**

Bowlby (1944) showed an early interest in the effects of primary caregiver deprivation and the development of juvenile offenders in his seminal paper 'Forty-Four Juvenile Thieves'. Empirical assessment of attachment styles in young offenders has mainly focused on sexual offending (e.g. Ward, Hudson, Marshall & Siegert, 1995; Seto & Lalumiere, 2010; Marshall, 2010) and psychopathy or violence (e.g. Flight & Forth, 2007; Homlqvist, 2008). However, more recently, there has been a call for research that investigates the adaptive attachment styles of young people who enter into the criminal justice system (Casswell et al., 2012) as a means to understand their problematic behaviour and risk to mental health issues. Casswell et al. (2012) highlighted that in a UK home

office self-report survey of 1,721 young people aged 14-25 who had a weak attachment to their family, nearly half (47%) went on to offend (Graham & Bowling, 1995). In a longitudinal study spanning nearly 40 years, Farrington (1997) followed a cohort of 411 males born in South London. With regard to early mental health difficulties, the offending group was more likely to have engaged in childhood antisocial behavior and show signs of hyperactive, attention deficit and impulsive behaviour. Although Farrington (1997) did not directly measure attachment patterns within this cohort, he found that the parenting style of the offending group was more likely to be characterized by poor supervision and authoritarian discipline, which has been linked to the development of insecure attachment styles in children and adolescence (Karavasilis, Doyle & Markiewicz, 2003).

The absence of adequate social ties or social support, including inadequacy of primary attachments in early life and subsequent disruption of those primary attachments, has been established as a risk factor for persistent juvenile offending into adulthood (Laub & Sampson, 2003; Wileman, Gullon & Moss, 2011). Research has also highlighted a history of maltreatment and loss amongst young offenders (Boswell, 1996; Fonagy et al., 1997) both of which have been associated to insecure attachment patterns in young adults (e.g. Egeland & Sroufe, 1981; Hamilton, 2000). When reviewing the personal histories of 200 UK offenders detained for serious criminal convictions (i.e., murder, arson or rape), Boswell (1998) found that nearly all of them had experienced severe loss, neglect or abuse. Disruptive behaviour disorders (e.g. antisocial personality disorder or oppositional-defiant disorder) are also relatively common amongst young offenders (Salekin et al., 2004; Black et al., 2010) and have been related to insecure attachment patterns in individuals (Lorenzini & Fonagy, 2013). The evidence therefore suggests that there is a link between insecure attachment styles, mental health difficulties and offending behaviour in young people. However, as is noted by Ansbro (2008), although these connections are evident, there are many young people with similar disruptive attachment patterns who do not go on to offend or develop mental health difficulties. Nonetheless, within this

line of research ‘the quality of early parenting emerges as one factor that is important in determining later development’ (Ansbro, 2008; p. 235).

### **1.2.3 Adverse childhood experiences, psychopathology and attachment in young offenders**

ACEs are well documented as a known risk factor to the later development of psychopathology (Anda et al., 2002; Chapman et al., 2004; Springer, Sheridan, Kuo & Carnes, 2007) including depression (Anda et al., 2002; Chapman et al., 2004), anxiety (Springer, Sheridan, Kuo & Carnes, 2007), psychosis (Varese et al., 2012) and addiction (Anda et al., 2002). Research has also shown a link between higher levels of Adverse Childhood Experiences (ACEs) and higher levels of criminality and/or antisocial behavior (Cecil, Viding, Barker, Guiney & McCrory, 2014). ACEs have also been shown to lead to the development of insecure attachment styles across childhood and early adulthood (van Ijzendoorn, Schuengel & Bakerman-Kranenburg, 1999; Waters et al., 2000). More specific to a prison population, Williams, Papadopolou and Booth (2012) outlined childhood and family background risk factors for future offending that included low family income, histories of violence, parental mental illness, poor relationships with parents, low IQ and low school attainment. As already noted, these risk factors are also suggested as related to both insecure attachment patterns (Egeland & Sroufe, 1981; Hamilton, 2000) and mental health difficulties in young offenders (Casswell et al., 2013; Farrington, 1997).

Not specific to young offenders but relevant to mental health, Edwards et al., (2003) looked at ACEs and mental health difficulties within a population of 8,836 adults and found a dose-response relationship between the number of adverse experiences and mental health scores on the Medical Outcomes Survey. The cumulative effect of ACEs on mental health difficulties has been replicated in other studies (e.g. Chapman et al., 2004; Schilling, Aseltine & Gore, 2007) and of note to the current study is that boys are more likely than girls to engage in antisocial behaviour in young adulthood following ACEs (Schilling et al., 2007).

In another recent study exploring the role of positive affect, ACEs and psychopathology in 173 psychiatric inpatients, Etter, Gauthier, McDade-Montez, Cloitre and Carlson (2013) found that individuals with a history of multiple ACEs and less social support, were at risk of psychological difficulties. Finally, of further interest to the current study, Cecil, Viding, Barker, Guiney and McCrory (2014) explored the influence of childhood maltreatment and community violence exposure (CVE) on adolescent mental health. Similar to ACEs maltreatment was defined as including emotional abuse, physical abuse, sexual abuse, emotional neglect and physical neglect (Cecile et al., 2014). They found that maltreatment was associated with more internalizing, externalizing, and trauma-related symptoms whereas CVE was only independently associated with externalizing behavior and trauma-related symptoms (Cecil et al., 2014). They concluded that as maltreatment was a powerful predictor of mental health symptoms in adolescence this highlighted the importance of preventive efforts and early intervention strategies (Cecil et al., 2014). However, they also noted that higher levels of CVE, which are commonly experienced in urban areas, was also associated with elevated symptoms of anger and they concluded this stressed the importance of addressing CVE within adolescent populations.

#### ***1.2.3.1 Adverse childhood experiences and the influence of autobiographical memory***

Of consideration to the current study is the impact that autobiographical memory specificity (AMS) may play in relation to both the accounts which are given to the simulation task being proposed (see section 1.3 Summary and aims of the current study, for further information), as a measure of attachment system activation, and how reduced AMS may also represent an increased risk to psychopathology. Autobiographical memory is a subjective account of the past based on personal memory that involves remembering the past in the present (Bluck, 2003). These memories are ‘transitory dynamic mental constructions generated from an underlying knowledge base’ (p. 261; Conway & Pleydell-Pearce, 2000). They are also memories that are embedded within a socio-cultural framework that help

define the self in relation to others (Fivush, 2008). In relation to Bowlby's (1969, 1980) attachment theory, Conway and Pleydell-Pearce (2000) have suggested that autobiographical memory accessibility may be inhibited when the retrieval of memories are incongruent with internal representations of self and other.

Reduced AMS has also been noted as a moderating factor in those who present with mental health difficulties (e.g. depression and PTSD, Kleim & Ehlers, 2008; delayed recovery from affective disorders; Dalgliesh, Spinks, Yiend & Kuyken, 2001). For instance, Williams and Broadbent (1986) noted that when suicide attempters were asked to give specific autobiographical memories they were more over-general in their responses as compared to the control group. Of interest to the current study is a study whereby reduced AMS has been found to correlate with imagineability of future events (Williams, 1996). Williams (1996) has further suggested that an overgeneral retrieval style may be an affect-regulation strategy used after experience of stressful life events.

#### **1.2.4 Mental health, prisons and attachment in young offenders**

Although UK government policy has aimed to provide the same level of health care provision for prisoners as they would receive within the community (HM Inspectorate of Prisons, 1996), Birmingham (2003) has suggested that the prison environment, because of its strict and regimented daily routine, can be 'seriously detrimental to mental health' (p. 191). As previously noted, more than 70% of the prison population is said to have two or more mental health disorders (Social Exclusion Unit, 2004). Furthermore, the suicide rate in prisons has been reported as almost 15 times higher than in the general population (Appleby, 2004) and mental health problems are the highest cause of death in prisons (Birmingham, 2003). Reduced staffing levels also increases cell-time for prisoners and this reduces their time to interact with others or maintain contact with their families (Nurse, Woodcock & Ormsby, 2003). This can increase social isolation, a known risk factor for mental health deterioration (Berkman, 2001; Haney, 2003). Gang culture within prisons is also linked to increased prison misconduct and violence

(De Lisi, Berg & Hochstetler, 2004), which can be understood to increase hyper-vigilant behaviour and anxiety levels within a prison population. Bullying, also a known risk factor for increased mental health difficulties (Arseneault, Bowes & Shakoor, 2010), is a particular problem in young offenders institutions (Ireland, 2002). Overall, this literature suggests a need to further address mental health issues within prisons as a means to support and manage young offenders. As noted by the Prison Reform Working Group (Centre for Social Justice, 2009) prisons offer an ‘inadequate and antiquated approach’ to mental health issues within the criminal justice system (p. 116).

Of relevance to the current study is the idea proposed by Ansbros (2008) that, as a means to improve both offender management and mental health outcomes within prisons, an attachment framework should be considered whereby those working with offenders ‘can try to replicate in a small way a good attachment object, one that tries to sense the state of mind of the offender and respond’ (p. 241). Within this approach, Ansbros (2008) suggests that being attuned to an offenders’ attachment style could support workers in thinking about effective interventions to improve outcomes. However, as is evident from the above literature (e.g. Birmingham, 2003; Centre for Social Justice, 2009), a prison environment may not lend itself easily to the exploration of attachment-relevant themes with young offenders by virtue of this provoking what Mikulincer & Shaver (2002) describe as their attachment-system hyper-activation or deactivation strategies. As such, there is value in considering a means to explore attachment-system activation, and attachment-styles, through a more general lens such as social perception, as will be presented in the current study.

### **1.3 Summary and Aims of the Current Study**

#### **1.3.1 Summary**

As already noted, according to Bowlby’s (1969, 1973, 1983) attachment theory all infants are motivated by a behavioural attachment system to regulate proximity to

an attachment figure. These early experiences lay the foundations for an individual's internal mental representations, or internal working models, of attachment relationships throughout the life span (Mikulincer, 1998) and go on to organise cognition, affect and behaviour in adult relationships (Waters & Cummings, 2000). Individual differences in attachment styles have been delineated in both infants (Ainsworth et al., 1978) and in adults (Bartholomew & Horowitz, 1991, Berry et al., 2006; Brennan et al., 1998), which most notably highlight the distinction between secure and insecure attachment patterns. Within the adult attachment literature (e.g. Bartholomew & Horowitz, 1991; Brennan et al., 1998) two orthogonal dimensions of adult attachment, *anxiety* and *avoidance*, have been suggested. High levels of either or both dimensions represent an insecure adult attachment style (Bartholomew & Horowitz, 1991; Brennan et al., 1998). Within this dichotomous view of adult attachment the internal working model of self is viewed as 'either worthy or unworthy of comfort and care' and the internal working model of other is viewed as 'generally benevolent and helpful or disappointing and harmful' (p. 246, Mallinckrodt, 2000).

The development of insecure attachment styles has been linked to the quality of the child-to- primary attachment figure relationship (e.g. Hamilton, 2000). And, although considered relatively stable (Shaver et al., 1999), changes in attachment patterns have been noted in longitudinal studies from infancy to early adulthood when negative life events, such as the death of a parent or psychiatric illness of a parent, occur (e.g. Waters et al., 2000). Positive revisions of adult attachment patterns, from insecure to secure, have also been noted following subjectively viewed positive life events, such as marriage or parenthood (Mikulincer, 2007). Clinically, Bowlby (1988) viewed the successful therapist as a *secure base* from which a client could explore, reflect upon and modify painful past dysfunctional internal working models, or mental representations, to develop more adaptive models (Mikulincer, 2007). Since its inception, attachment theory has contributed to clinical treatment approaches (Hoffman, Marvin, Powell & Cooper, 2006; van Zeijl et al., 2006) and within certain fields (e.g. psychosis) it has been posited as a



clinically relevant construct in relation to the development, course and treatment of mental disorder (Gumley et al., 2014).

As a means to understand how attachment styles and internal working models operate within adult relationships, Collins (1996) completed a study where participants were asked for open-ended responses to hypothetical attachment relevant future events which featured potentially negative partner behaviours and found that adult attachment styles predicted the emotional responses of participants within their simulated narratives. More specifically, Collins (1996) found that participants with an *insecure-anxious*, or *preoccupied*, attachment style were more likely to describe hypothetical relationship events negatively and report more emotional distress. Within this line of research, working models of attachment are therefore assumed to be accessible cognitive constructs that will be automatically activated in response to attachment-relevant events (Collins & Read, 1994) and therefore impact real-world thinking. Collins' (1996) concluded that adult attachment styles do not merely reflect relationship quality but they directly influence the quality of the relationship. Furthermore, Collins (1996) suggested that internal working models of attachment could be considered 'part of a broader system of cognitive and motivational processes that enable people to make sense of their social experiences and to function in ways that serve their personal needs' (p. 812)

In parallel to studies of internal working models of attachment, other research has attempted to tap into aspects of real-world thinking through use of mental simulation tasks in considering outcomes of hypothetical events (Brown et al., 2002; Keen et al., 2008). This research has suggested that measurement of on-going cognitive processes can enhance the understanding of how simulation of future outcomes relates to worry and the subjective probability of outcomes (Brown et al., 2002). Furthermore, the more personally relevant a hypothetical distressing scenario is the better it will be simulated and induce associated worry (Keen et al., 2008). Following in this line of research, Huddy et al. (2012) used a simulation task paradigm to measure real-world thinking in paranoid individuals

adding a social-cognitive component to this line of research. Huddy et al. (2012) concluded that difficulty in mental simulation may exacerbate threat response by reducing access to non-threatening explanations for the actions of others during everyday events, which may increase distress (Huddy et al., 2012). As Bowlby's (1973) concept of internal working models suggests an appraisal system that organises cognition and affect that guide's future behaviour, the use of simulation tasks methodology lends itself well to the study of attachment-system activation.

One population known to present with high levels of insecure attachment-styles is young offenders (Casswell et al., 2013; Laub & Sampson, 2003; Wileman et al., 2011). Young offenders are also known to have increased mental health difficulties compared to the general population (Hayes & O'Reilly, 2013; Kessler et al., 2005). Their increased risk to mental health difficulties has been linked to increased exposure to known mental-illness risk factors such as lower educational achievements, substance abuse, violence and family relationship needs (Chitsabesan et al. 2006; Patel et al., 2007). When considering their attachment-styles and mental health needs together there is overlap in terms of risk factors. For instance, family relationship needs have been linked to both increased mental health difficulties (Chitsabesan et al., 2006) and an increased risk for young people to go on to offend (Graham & Bowling, 1995). Maltreatment and loss in young offenders (Boswell, 1996; Fonagy et al., 1997) has also been associated to both insecure attachment styles in young adults (e.g. Egeland & Sroufe, 1981; Hamilton, 2000) and mental health risks in young people more generally (Rutter et al., 2009).

The research presented thus far therefore shows compelling evidence of higher levels of insecure attachment in young offenders (e.g. Graham & Bowling, 1995; Laub & Sampson, 2003; Wileman, Gullon & Moss, 2011). Furthermore, young offenders' insecure attachment patterns have not only been linked to their increased risk of mental health difficulties (e.g. Casswell et al., 2013), but have also been presented as increasing their likelihood to continue offending into adulthood (e.g. Laub & Sampson, 2003; Wileman, Gullon & Moss, 2011). As

such, an attachment lens, as has been considered within other areas of mental health (e.g. Psychosis; Gumley et al., 2014), may represent a clinically useful means to conceptualise and engage young offenders as suggested by Ansbro (2008). Measures of attachment, through interview (e.g. AAI: Main & Goldwyn, 1984) and self-report (e.g. RQ: Bartholomew & Horowitz, 1991) are one means by which researchers have looked to understand and conceptualise attachment patterns. However, there has been a call for attachment measures that are less reliant on self-report and that explore the concept of internal working models of attachment outside of a purely relationship-focused perspective (Pietromonaco & Barrett, 2000). As highlighted above already, one means by which attachment-system activation could be explored is through use of mental simulation tasks (e.g. Huddy et al., 2012), which have the potential to tap into an individual's internal working models when individuals are asked to simulate personally relevant future situations that may elicit distress. This approach may also lend itself appropriately to a young offender population who, by virtue of being housed within the relatively inhospitable environment of a prison, may be more willing to engage with a task that explores their social perception through simulation of everyday events as compared to directly engaging in tasks, which discuss attachment-relevant themes.

### **1.3.2. Aims of the current study**

There has been a call for research that investigates the adaptive attachment styles of young people who enter into the criminal justice system (Casswell et al., 2012) as a means to understand their problematic behaviour and risk to mental health issues. There has also been a call for further measures of attachment working models (Pietromonaco & Barrett, 2000) but little investigation into how to operationalise this. In the current study we aimed to address these two issues by both examining attachment styles in young offenders using an existing self-report instrument, whilst also investigating how these attachment styles were related to a novel measure of internal working models of attachment in the same population. For the novel measure we adapted the Huddy et al. (2012) mental simulation task

by drawing on previous findings that social perceptions (Collins, 1996) are indicative of working models of attachment. Also while there have been references to the role of mental simulation as a means to explore attachment processes (e.g. Bretherton, Ridgeway & Cassidy, 1990) this has, to date, never been examined.

The rationale for using Huddy et al.'s (2012) paradigm was threefold:

Firstly, Collins' (1996) found that when participants were asked to give open-ended responses to attachment relevant future events their emotional responses were predicted by their attachment styles. In the Huddy et al. (2012) simulation task participants were presented with the beginning and end of ambiguous interpersonal scenarios that held a potentially threatening theme and asked to give a step-by-step simulated account of what happened in between. As such, Huddy et al.'s (2012) study had the potential to elicit threat and distress, and threatening situations have been shown to activate the attachment-system (Ainsworth et al., 1978; Collins, 1996; Mikulincer, 2002).

Secondly, the Huddy et al. (2012) simulation task asked participants to imagine future scenarios instead of recalling past events. In line with Bowlby's (1969, 1973, 1980) attachment theory, novel situations that have the potential to elicit threat and distress should activate participants' internal working models (Waters, 1994). It would therefore be expected that those with secure attachments would interpret others intentions positively because they would view themselves as deserving of comfort and care and view others as benevolent and helpful (Mallinckrodt, 2000). On the other hand, those with insecure attachment styles, anxious or avoidant, would be likely to interpret others intentions negatively because others are viewed as disappointing and harmful (Mallinckrodt, 2000).

Thirdly, in Collin's (1996) study, the scenarios were clearly attachment relevant as they were focused on partner-related behaviours and they also had the potential to be interpreted as negative (e.g. *your partner didn't respond when you tried to cuddle* or *your partner didn't comfort you when you were feeling down*). Huddy et al.'s (2012) simulation task, however, contained scenarios that were ambiguous in nature and did not contain clear attachment relevant events (e.g. *you are at home and someone nearby has been making a lot of noise. A visitor arrives and the noise stops. At the end of the scenario, the visitor leaves and the noise immediately starts again*). The attachment irrelevant and ambiguous nature of the scenarios allowed participants to provide the full range of appraisals that should reflect their attachment style. That is, this would allow participants to view others behaviours within the range of being 'generally benevolent and helpful', when their intentions are viewed positively, or 'disappointing and harmful', when their intentions are viewed as negative (Mallinckrodt, 2000; p. 246). This would allow for a more general exploration of whether participants' internal working models would be activated in the context of everyday reasoning to imagined future events that may or may not elicit threat or distress.

Similar to the task used by Collins (1996), individuals' interpretations of these scenarios were rated for intent with positive or negative valence towards the participant (Huddy et al., 2012). Individuals also gave post-scenario self-ratings of perceived distress (Huddy et al., 2012). In Keen et al.'s (2008) study which looked at obsessive-compulsive symptoms and simulation of future events they found that personally relevant scenarios, as measured by the Events Ranking Questionnaire (ERQ; Keen et al., 2008), that were closely aligned with the individual's symptom-related concerns were better simulated and associated with more worry than scenarios rated as less personally relevant. Within the current study, it was therefore expected that personally relevant scenarios, that would potentially be more distressing, would more readily activate working models of

attachment and elicit more positive or negative intent, as these scenarios are more aligned with the individual's pattern of beliefs and expectations. Furthermore, as Collins (1996) remarks, it is important to include events that are not expected to be influenced by attachment style as a means 'to demonstrate that these differences are due to activation of attachment-related models, rather than a more general perceptual bias' such as sex-role stereotypes or cultural beliefs. (p. 813). Therefore, high relevance scenarios were considered specifically, as they are likely to lead to more robust activations of the attachment system.

In the current study attachment was measured using the Psychosis Attachment Measure (PAM; Berry et al., 2006). The PAM is a 16-item attachment measure where items refer to thoughts, feelings and behaviours in close interpersonal relationships, but do not refer specifically to romantic relationships. The PAM (Berry et al., 2006), was developed in an attempt to overcome perceived challenges in assessing attachment styles in individuals with psychosis when using existing interview and self-report measures. Berry et al. (2006) noted that existing interview measures, such as the Adult Attachment Interview (AAI; Main & Goldwyn, 1984) are time-consuming, rely on the individual giving a coherent narrative of their primary attachment experiences and can be confounded by the presence of psychotic experiences (Dozier et al., 1999). They also suggested problems to exist in administering self-report attachment measures to individuals with psychosis as they focus on close interpersonal relationships (Berry et al., 2006), including romantic relationships, that may be less relevant to this population who are often socially isolated (Randolph, 1998). Furthermore, difficulties can arise based on cognitive difficulties that can be present within this population who may be challenged by negatively worded items or who may find wide-ranging Likert scales and few anchor points problematic (Kelly, Sharkey, Morrison, Allardyce, & McCreddie, 2000). Berry et al.'s (2006) rationale for using such a measure with individuals who have psychosis can also be extended to a young adult offender population who will tend to have less opportunity to develop romantic relationships (Steinberg, Chung, Little, 2004) and may also be

challenged by the cognitive complexities of such measures (Sigurdsson, Gudjonsson, & Peersen, 2001) as suggested by Berry et al., (2006).

In considering a young male offending population who are incarcerated, it has been indicated that deficits in attachments to parents, often characterized by the failure to form adequate primary attachments in early life, influence offending behaviour (Wileman et al, 2008). Following from this it would be anticipated that a review of the attachment styles of a young adult male offender population would produce high rates of insecure attachment orientation as defined by Brennan et al. (1998) and measured by the PAM (Berry et al., 2006). The variety of anticipated attachment styles suggested that this population were an interesting population to study as compared to a general population cohort. Finally, as Adverse Childhood Experiences (ACEs) have been linked to higher levels of criminality (Farrington 2000; Dallaire, 2007), mental health difficulties (Edwards et al., 2003; Chapman et al., 2004; Schilling et al., 2007 ) and insecure attachment patterns (Egeland & Sroufe, 1981; Hamilton, 2000), participant ACEs were measured as a means to explore the links between attachment patterns, as measured by the PAM (Berry et al., 2006), intent ratings, as measured by the Huddy et al. (2012) simulation task, and distress ratings, as measured by the ERQ (Keen et al., 2008). This allowed for triangulation of the final results for a richer discussion of the findings (see methods section for details of ACE items measured).

### **1.3.3 Hypotheses**

Individuals with anxious attachment styles are more likely to experience distress in interpersonal conflict situations and they hold more negative beliefs and expectations of others (Collins, 1996). In keeping with Shaver & Mikulincer's (2002) attachment system activation model, we would anticipate a lower threshold for attachment-system activation, that is monitoring and appraisal of threat, in those who score higher on attachment anxiety. Individuals who score high on attachment avoidance are more likely to hold negative

representations of others and their intentions and are more likely to avoid interpersonal relationships (Collins & Read, 1994), thus suggesting higher negative intent. However, the suppression of emotions is a deactivating strategy used by those with avoidant attachment patterns (Fraley & Shaver, 1997), which suggests they would be less likely to report distress. This understanding led to the following hypotheses:

### ***Hypothesis 1***

*It was expected that participants who scored highly on attachment anxiety, as measured by the PAM (Berry et al., 2006), would generate more negative intent ratings, less positive intent ratings and report more post-scenario distress in high relevance scenarios.*

### ***Hypothesis 2***

*It was expected that participants who scored highly on attachment avoidance, as measured by the PAM (Berry et al., 2006), would generate higher negative intent ratings but report less post-scenario distress across all scenarios, regardless of personal relevance.*

#### **1.3.4 Secondary hypotheses**

Negative life events from infancy to young adulthood have been shown to increase the likelihood of individuals developing and maintaining an insecure attachment pattern (Hamilton, 2000) as well as increasing the likelihood of an individual attachment pattern changing from a secure to an insecure style (Waters, Weinfield & Hamilton, 2000). As inadequacies and disruptions in the primary attachment relationship have been identified as a risk factor for persistent juvenile offending into adulthood (Casswell et al., 2012) we therefore anticipated to find



some associations between adverse childhood experiences (ACEs) and attachment scores, as measured by the PAM (Berry et al., 2006).

### ***Hypothesis 3***

*Following on from the above, we anticipated that higher incidents of ACEs would be associated to higher levels of attachment anxiety and attachment avoidance as measured by the PAM (Berry et al., 2006).*

### ***Hypothesis 4***

*Higher incidents of ACEs were also anticipated to be associated with higher negative intent ratings across the five scenarios.*

## **2 METHOD**

This section describes in detail the methods and materials used for data collection. The chapter begins with details of ethical approval granted before describing the pilot phase of the study. The main study design and recruitment procedure are then reviewed. A description of administered questionnaires and the simulation task is then presented, followed by an outline of the study procedure. The chapter concludes with details of the planned data analyses.

### **2.1 Ethical approval**

Ethical approval for the study was sought and granted by an NHS Research Ethics Service Committee (London – South East branch, REF 13/LO/1036), the National Offender Management Service (NOMS) National Research Committee (REF 2013-216), and South London and Maudsley NHS Foundation Trust (SLaM) Research and Development Office (REF R&D103/106) (see Appendix 1).

## **2.2 Pilot study**

Ten male participants were included in the pilot phase of the study. They were recruited following the same procedure and measures used in the main study and detailed below. The aim of the pilot study was to determine the feasibility of using the simulation task scenarios to elicit well-formed content that included negative, positive and neutral intent towards the respondent. The pilot was also completed to establish whether any final changes were required to the wording of scenarios. This consideration was made due to an assumption that literacy skills within the prison participant cohort may differ to that of the population used within Huddy et al.'s (2012) study.

## **2.3 Main study design**

The design was a cross-sectional within-participants design. All participants completed two questionnaires, namely the PAM (Berry et al., 2006) and the ERQ (Keen et al., 2008), prior to completing a verbal response mental simulation task (Huddy et al., 2012), over a 30-45 minute session with the researcher.

### **2.3.1 Sample size and power analysis**

Power calculations for the analyses of the main hypotheses (1 & 2) were calculated based on Cohen's (1988) statistical power tables for the behavioural sciences. The calculations were guided by the effect size reported by Collins (1996), which is the closest existing study to the one proposed here. Collins' study examined attachment style differences in social perception. In this study participants wrote open-ended explanations for hypothetical relationship events and described how they would feel and behave in response to each event (Collins,

1996). Collins (1996) found that the attachment styles of participants predicted both the explanations given for the hypothetical relationship events and the participants' emotional responses. The correlation coefficient reported in the Collins study was 0.5. Based on this correlation a sample size of 36 was required in the current study to detect an association at 80% power with an alpha level of 0.01 (Cohen, 1988).

Huddy et al. (2012) gained an interclass correlation (ICC) between raters of 0.71 and 0.86 with a participant sample size (n) of 42. We assumed an inter-rater ICC of 0.8. If this ICC was succeeded we would need a sample size of 45 people to have a 95% confidence to detect an ICC of at least 0.675 in our tests (see Streiner & Norman, 2003, p.149 for further clarification of this assumption).

### **2.3.2 Participants**

As ten pilot participants' were recruited through the same procedure and completed the same material as the main study they were included in the main analysis. As such, a total of 55 participants took part in this study.

### **2.3.3 Recruitment procedure**

Participants who completed the current study were recruited from within Her Majesty's Prison, Youth Offending Institute, ISIS (HMP YOI ISIS), which is a category C prison for sentenced young adults and category C offenders who are under the age of 30. A category C prison is for prisoners who cannot be trusted in open conditions but who do not have the resources and will to make a determined escape attempt.<sup>1</sup>

All resident young offenders are screened during their first two-week induction to prison for an 'at risk mental state' (ARMS; Yung et al., 2005) by the OASiS in Prison service. The OASiS in Prison service is a psychological service for prisoners at high risk of developing psychosis. For the purpose of this study only demographic information and exposure to adverse childhood experiences (ACEs) collected during the OASiS in Prison screening were reviewed for the analysis (see measures for further details). Following completion of the OASiS in Prison screening assessment, consisting of a brief semi-structured interview with a member of the OASiS in prison team that lasted between 20-40minutes, all eligible participants were verbally offered the opportunity to take part in the current study. If they agreed to consider this they were given a Participant Information Sheet to review. The Participant Information Sheet and Consent Form were both adapted to accommodate for the possibility of low levels of literacy (see Appendices 2 & 3). Due to the prison population being transitory in nature the time between initial recruitment and participation within the research

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was no longer than two weeks. At this time, the researcher made contact with eligible participants who had agreed to read the Participant Information Sheet.

If eligible participants chose to take part they were invited to meet with the researcher. The participant information sheet was then verbally presented to them to ensure informed consent and offer participants the opportunity to ask any questions. Whilst reviewing the Participant Information Sheet participants were reminded that they could stop to ask questions or withdraw at any stage without any consequences if they so wished. It was made clear to all participants that their participation or non-participation in the study would not adversely affect their stay in the prison or negatively impact the support that they received from services within the prison. Confidentiality was discussed and it was made particularly clear that the study would not ask participants any direct questions about their offences. Participants were informed that if they chose to discuss their offences whilst the audio-recorder was in use the audio-recorder would be stopped and they would be reminded of the nature of the study. Risk to participants was not anticipated from completing the study, however all participants were informed that if anything distressed them within the study they were free to stop at any point. They were also informed that they would be directly asked whether anything within the study distressed them prior to concluding the study and in the event of any distress this would be explored together and available supports discussed if required. Participants were also reminded that in giving consent to participate within the current study they also gave consent for their OASiS in Prison screening information to be reviewed and used within the current study. Following the above discussion, if the participant was in agreement a consent form was completed (see Appendix 3). If the participant was not in agreement they were thanked for meeting with the researcher and escorted back to their prison landing.

Of 60 eligible participants approached 55 chose to take part in the research. Of those that refused, disinterest in meeting to discuss the research was cited as the

reason for not taking part. Data collection occurred between November 2013 and January 2014.

#### **2.3.4 Inclusion and Exclusion Criteria**

Participants were eligible for inclusion if they:

- Were aged 18 or over.
- Were under detention at HMP YOI ISIS prison.

Potential participants were excluded, if they:

- Had insufficient English language skills to complete the written and verbal based assessments.
- Had evidence of a frank psychotic episode, as established during the OASiS in Prison Screening.

### **2.4 Measures/Materials**

#### **2.4.1 Socio-Demographic Details and Mental Health Screening data**

(see Appendix 4)

Socio-demographic data (e.g., age, years of education, ethnicity, place of birth, mother's place of birth) and adverse childhood experiences (ACEs) were collected at the initial screening by the OASiS in prison service. Participants were also asked if this was their first time in prison.

#### **2.4.2 Adverse Childhood Experiences**

(ACEs; see Appendix 5)

As part of the OASiS in Prison screening all participants were asked to respond to eight yes/no items examining experiences before the age of 17 years of bullying; physical abuse; witnessing family violence; separation from parents; being in

care; sexual abuse; illness, injury or assault; and racial discrimination. The first item was taken from the Retrospective Bullying Questionnaire (RBQ; Schager et al., 2004), the last from the Perceived Ethnic Discrimination Questionnaire (PEDQ; Brondolo et al., 2005) and the remainder from the Childhood Experiences of Care and Abuse (CECA-Q; Bifulco et al., 2005).

### **2.4.3 Psychosis Attachment Measure**

**(PAM; see Appendix 6)**

The PAM (Berry et al., 2006) is a 16-item self-reported attachment measure where items refer to thoughts, feelings and behaviours in close interpersonal relationships, but do not refer specifically to romantic relationships. Eight of the items assess the construct of avoidance (e.g. 'I prefer not to let other people know my 'true' thoughts and feelings') and eight items assess the construct of anxiety (e.g. 'I tend to get upset, anxious or angry if other people are not there when I need them'). Participants were asked to rate each item on a simple and anchored, four-point Likert scale from 'not at all' to 'very much'. Total scores were calculated for each dimension by averaging individual item scores, with higher scores reflecting higher levels of anxiety and avoidance.

This measure has been previously shown to have good psychometric properties in two independent non-clinical samples that have provided evidence to support the measure's construct validity (Berry, Band, Corcoran, Barrowclough, & Wearden, 2007; Berry, et al., 2006). Concurrent validity has also been obtained within a clinical sample (Berry, Barrowclough & Wearden, 2008) where significant associations between attachment anxiety and avoidance dimensions and theoretically similar dimensions of 'model of self' and 'model of others' on the Relationship Questionnaire (RQ; Bartholomew & Horowitz, 1991; anxiety and model of self:  $r = -.59$ ,  $p < .001$ ; avoidance and model of other:  $r = -.54$ ;  $p < .001$ ) have been demonstrated.

Berry et al.'s (2006) rationale for using such a measure with individuals who have psychosis can also be extended to a young male population who will tend to have few experiences of romantic relationships. Furthermore, its brevity and simplicity also minimizes any potential motivational challenges that may be experienced if using other 'gold standard' measures such as the Adult Attachment Inventory (AAI; Main & Goldwyn, 1984) that are lengthy to administer (Roisman et al., 2007).

#### **2.4.4 Mental Simulation Task**

(see Appendix 7)

The structure of the task followed the same procedure as completed in the Huddy et al. (2012) study on real-world reasoning in clinical paranoia. The five scenarios were adapted from interviews of individuals with paranoia (Boyd & Gumley, 2007) and were developed to potentially evoke paranoia but to appear ambiguous in nature.

For each scenario, participants were presented with the beginning of the imaginary scenario (e.g. 'you are at home and you hear a noise coming from somewhere nearby. A friend arrives and the noise stops') and the end of the scenario (e.g. 'your friend leaves and the noise immediately starts again'). They were asked to complete what may have happened in between in a step-by-step account and following completion their responses were audiotaped and transcribed verbatim.

Following Huddy et al.'s (2012) study, scenario responses were classified post hoc by the researcher and her supervisor using a rating to indicate whether or not the response given elicited evidence that others held negative (hostile and dismissive) or positive (kind and caring) intentions towards the respondent on a 2-point scale where 0 represented no intent implied and 1 represented clear intent



implied. Neutral intent (neither hostile and dismissive or kind and caring) was also added following a review of the pilot participant responses, whereby 0 also represented no presence of neutral intent and 1 represented clear neutral intent implied. For instance, in response to scenario 4, *you are checking your telephone messages and there are a number of missed calls someone has phoned and not left a message. [...] At the end of the scenario, your doorbell rings but when you go to the door no one is there*, one participant responded ‘*Someone playing games innit, I wouldn't be too bothered by it*’. This response was classified as neutral intent as, in line with the rating criteria (see Appendix 8) the participant referred to an action directed towards the participant but that did not elicit negative or positive intent towards them. For further examples of participant responses that were rated positive, negative or neutral see Appendix 9.

Following training with example transcripts for each scenario, two raters – the researcher and the researcher’s supervisor – independently assigned scores on each of the dimensions described above to each scenario provided by participants. Inter-rater reliability was evaluated by having a selection of pilot participant ratings blind scored. See Appendix 8 for specific rating criteria anchors. There were three ratings for intent (negative intent, positive intent and neutral intent), one for interaction with others and one for conflict with others.

Following each response participants were also asked to verbally rate each scenario on four dimensions: ease of imagining, subjective probability, distress-imagined and distress-actual on a Likert scale ranging from 0 (not at all) to 7 (very much). The imaginability scale was rated in response to the statement, ‘I can easily imagine (picture) what I just described in that scenario’. As in Huddy et al.’s (2012) study, this variable was included to allow participants to rate a response as plausible without necessarily expecting it to happen. We expected the ratings on this variable to converge with the subjective probability rating which participants rated by responding to the question ‘I can see something like that actually taking place’. On the distress-imagined scale, the participants responded

to ‘how distressing is it to think about that situation’ and on distress-actual they replied to ‘how distressing is the prospect of what you’ve described in that situation actually happening’. Distress-imagined and distress-actual variables were introduced as a means for us to explore whether the participants’ reported distress converged with their intent ratings and/or their attachment styles. The current study focused on the distress-actual scores as a variable to assess activation of the attachment-system as suggested by the attachment literature (e.g. Waters, 1994). Although the post-scenario ratings of imaginability, subjective probability and distress-imagined were not of direct interest to the current study, these variables were maintained within the current research procedure as a means to maintain fidelity to the original Huddy et al. (2012) study. This allowed for some further exploration of the data without adding to the demand characteristics of the research protocol.

#### **2.4.5 Modifications to the Mental Simulation Task**

Discussions prior to the current study between the researcher and her supervisor led to the following modifications:

The original task-instructions included an exemplary step-by-step response that could be given by a respondent. As this step-by-step response did not include intent (positive, negative or neutral) it was excluded from the study (see Appendix 7). It was felt the exemplary response may lead participants to answer in a similar fashion without the possibility of naturally including intent within their narratives. The instructions ‘Imagine what you or others might be feeling or thinking’ and ‘Remember to include what you or others might be feeling or thinking through the story’ were also added to the scenario task instructions. These instructions were included as it has been noted that when task instructions request specific information within the response they are more likely to elicit less vague, and more specific, information (Archer & Hughes, 2004). Furthermore, it was hoped that these instructions would also encourage the participants to elicit richer narratives that would more easily tap into their attachment framework. After each response

participants were also asked ‘how does it come to be that [include end of scenario]’. This question was introduced as a means to increase the possibility of eliciting intent (positive, negative or neutral) from the participant responses by encouraging them to verbalise what may have led to the outcome they suggested within their narrative.

Changes were also made to the wording of scenarios prior to the study being completed. In scenario 1 ‘the noise immediately *resumes*’ was changed to ‘the noise immediately *starts again*’ as a means to keep the language used at a reading level of 11 years of age. In scenario 3, ‘a *man* sits down next to you and starts speaking to you’ was changed to ‘a *person* sits down next to you and starts speaking to you’ to allow for more ambiguity.

#### **2.4.6 The Event Ranking Questionnaire**

**(ERQ; see Appendix 10)**

The ERQ (Keen et al., 2008) presented the participants with nine short scenarios, five of which were similar to those in the simulation task, with four distractor scenarios. As in Huddy et al.’s (2012) protocol, participants were asked to order them one to nine, from the most upsetting and personally relevant to the least upsetting and personally relevant scenarios. For example, the first short scenario was ‘You can’t find your keys in the usual place, later on you notice they are there’, similar to scenario five on the mental simulation task. After ranking the nine short scenarios, participants were asked to indicate their level of upset, or distress, on a four-point Likert scale, ranging from ‘not at all’ to ‘extremely’. Of the five scenarios similar to the simulation task scenarios, the highest and lowest ranking items were used as idiosyncratic high and low relevance simulation task scenarios, respectively.

As already noted, Collins (1996) highlighted the importance of comparing attachment-relevant with attachment-irrelevant events as a means to assess the importance of internal working models of attachment being activated in the attachment-relevant events, as opposed to a general perceptual bias (e.g. gender stereotyped biases or culturally-held beliefs) which may be activated in attachment-irrelevant events. Furthermore, it has been noted that internal working models of attachment are more likely to be activated in situations that have the potential to elicit threat and distress (Waters, 1994). As such, the ERQ (Keen et al., 2008) enabled comparison of events that were more likely to be distressing and activate a participant's attachment-system - and their corresponding internal working models of attachment - with events that were less likely to activate their attachment-system.

## **2.5 Assessment Procedure**

Following the participants' consent to take part in the study, participants were first administered the PAM (Berry et al., 2006), followed by the ERQ (Keen et al., 2008) and then the mental simulation task (Huddy et al., 2012). The five scenarios in the mental simulation task were given in a counterbalanced order and each scenario was followed by the five post-scenario ratings. Measures were completed during a single individual meeting with the participants over a 30-45 minute session with the researcher. Upon completion the participants were debriefed, given the opportunity to ask questions and thanked for their participation.

## **2.6 Data handling**

Participant responses to the simulation-task were transcribed verbatim and anonymised before the audio-recordings were deleted. Participant data was stored in a password-protected electronic data file and all raw data were stored in a locked filing cabinet in a locked room.

## **2.7 Statistical Analysis**

The scenario response data of the 10 pilot participants was independently classified post hoc by the researcher and her supervisor on the following five dimensions: intent ratings (negative, positive and neutral), presence of conflict with others, and presence of interaction with others. Inter-rater reliability was evaluated by having raters blind to all information concerning the participants and both raters independently rated the scenario responses. Cohen's kappa (Cohen, 1960) was used to provide coefficients of agreement between the two raters.

Following this, all statistical analyses were carried out using SPSS version 22 (IBM, 2013). For each hypothesis the analyses were correlations.

The assumption of normal distribution was tested for each key variable using the Kolmogorov-Smirnov and Shapiro-Wilks tests of normality, in conjunction with a visual inspection of the quantile-quantile plots and the values of skew and kurtosis. Only one variable was normally distributed (PAM avoidance) and therefore non-parametric correlation analyses were conducted (Spearman's Rank correlations). Within-participant comparisons of means were explored using the non-parametric Wilcoxon's Signed Rank test. The boundary for significance was held at  $p=0.05$  for the analysis.

## **2.8 Missing Data**

Individual items were missing for some demographic data collected during the Screening prior to the current data being collected. This data was classed as missing and reported in the results as it referred to idiosyncratic information about the individual participant and as such could not be replaced by mean values.

### 3 Results

#### 3.1 Participant Socio-demographic characteristics

A total of 55 participants took part in the study. Their ages ranged from 18 to 25 (mean age = 21.1 years, *SD* 2.1 years). The average age of participants leaving education was 16.7 years (*SD* 2.5 years) and although a considerable proportion did not gain any educational diplomas (27%, *n* = 15), there was a sizeable group that had gained either BTEC/NVQ diplomas<sup>2</sup> (31%, *n* = 17), GCSEs (24%, *n* = 13) or A-levels (9%, *n* = 5).

The majority of participants identified themselves as Black (45%, *n* = 25) or White (25%, *n* = 14), and were born in the United Kingdom [UK] (73%, *n* = 40) to mothers born outside of the UK (64%, *n* = 35). Over half of the participants (51%, *n* = 28) were serving their first prison sentence at the time of completing this study. See Table 1 for details of demographic variables assessed.

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<sup>2</sup> BTEC stands for Business & Technology Education Council; NVQ stands for National Vocational Qualification. BTEC and NVQ are vocational qualifications taken in England, Wales and Northern Ireland by people aged 16 and over (Dearden, McIntosh, Myck & Vignoles, 2002)

Table 1

*Socio-Demographic Characteristics of Participants and Prison Sentence (N=55)*

<b>Demographic Categories</b>	
<hr/>	
<b>Age <i>M</i> (<i>SD</i>)</b>	21.1 (2.1)
<b>Age leaving education <i>M</i> (<i>SD</i>)</b>	16.7 (2.5)
<b>Level of education attained <i>n</i> (%)</b>	
BTEC/NVQ Levels 1-3	17 (31)
No qualifications	15 (27)
GCSE	13 (24)
A-Level	5 (9)
Higher National Diploma	3 (5)
Missing	2 (4)
<b>Ethnic Group <i>n</i> (%)</b>	
Black	25 (45)
White	14 (25)
Mixed/Multiple Ethnicity groups	9 (16)
Asian or Asian British	3 (5)
North African	2 (4)
Middle Eastern	2 (4)
<b>Place of Birth <i>n</i> (%)<sup>a</sup></b>	
Self - United Kingdom	40 (73)

Self – Other	14 (26)
Mother – United Kingdom	20 (36)
Mother – Other	35 (64)
<b>First time in prison <i>n</i> (%)<sup>a</sup></b>	<b>28 (51)</b>

<sup>a</sup> Missing data for 2 participants (4%, *n*=2).

### 3.2 Inter rater reliability of the simulation-task data

The inter rater reliability ranged between 0.48 to 0.88 for the individual dimensions of intent (positive, negative, neutral), conflict with others and interaction with others as measured by Cohen's Kappa. See Table 2 for individual variable inter rater reliability coefficients and interpretations.

Table 2

*Inter Rater Reliability for Ratings of Intent (Positive, Negative, Neutral), Conflict with Others and Interaction with Others,*

Rating Dimension	Cohen's Kappa	Inter Rater Reliability interpretation <sup>a</sup>
Negative Intent	0.88	Almost perfect
Positive Intent	0.65	Substantial
Neutral Intent	0.48	Moderate
Conflict with others	0.60	Moderate
Interaction with others	0.93	Almost perfect



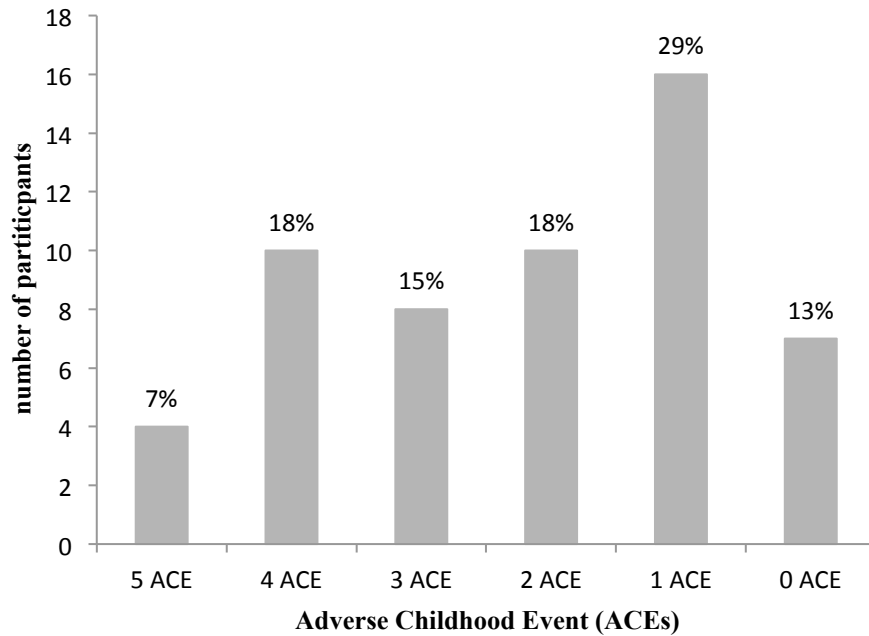
<sup>a</sup>Criteria based on Landis & Koch's (1977) measurements of observer agreement for categorical data

### **3.3 Participant attachment scores on the Psychosis Attachment Measure**

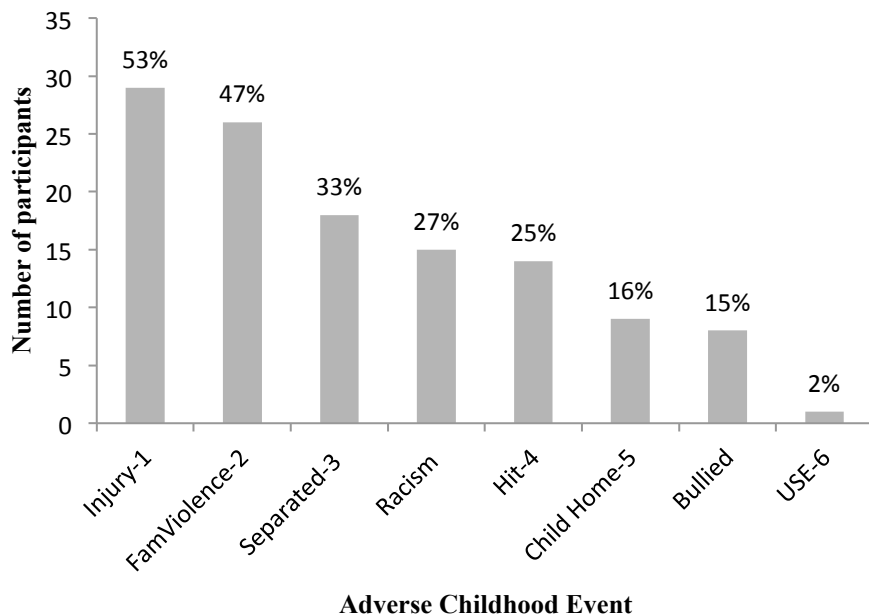
Attachment anxiety scores for the PAM (Berry et al., 2006) ranged within the sample from 0 to 2 ( $M = 0.7445$ ,  $SD = 0.544$ ) and attachment avoidance scores for the PAM ranged within the sample from 0.375 to 2.5 ( $M = 1.525$ ,  $SD = 0.509$ ). Only PAM Avoidance was normally distributed across the participants. To date there have been no cut-off scores established for the PAM (Berry, 2013 personal communication).

### **3.4 Participant Adverse Childhood Events**

Nearly all participants ( $n=54$ , 98%) reported having experienced one or more ACEs prior to the age of 18. Over half of the participants ( $n=29$ , 53%) reported experience of injury, illness or assault, and nearly half ( $n=26$ , 47%) reported experience of family violence. See Figures 1 and 2 for a full break down of ACEs by frequency and categories.



**Figure 1** Frequency of Total number of Adverse Childhood Experiences (ACEs) experienced by participant (n=55)



**Figure 2** Frequency of Adverse Childhood Events prior to aged 18 across the total participant group (n=55)

<sup>1</sup>Injury, assault or serious illness; <sup>2</sup>witness to family violence; <sup>3</sup>separation from parents; <sup>4</sup>Physical abuse; <sup>5</sup>being in care; <sup>6</sup>Unwanted sexual experience

### 3.5 Validation of high vs. low personal relevance scenarios

It was expected that scenarios that participants considered personally relevant would activate working models of attachment in individuals more so than low relevance scenarios, and result in more elicited negative affect (i.e. post-scenario distress ratings) and greater negative intent ratings.

Before further analysis was conducted, it was necessary to determine whether it was valid to assume significant within-participant differences along the dimension of relevance. Prior to completing the simulation task (Huddy et al., 2012) the ERQ (Keen et al., 2008) determined which scenarios participants considered most and least relevant. Personal relevance should associate positively with distress ratings. A Wilcoxon Signed-Rank test showed a statistical difference between the two categories of scenarios in line with expectation. That is, participants rated high relevance scenarios in the ERQ as significantly more distressing than low relevance scenarios ( $Z = -5.668$ ,  $p < 0.001$ ). This statistical difference allows the two categories of scenarios to be considered separately in subsequent analyses. Mean distress scores on the ERQ for high and low relevance scenarios are presented in Table 3.

Table 3

*Participants' Mean Distress Scores on the ERQ (Keen et al., 2008) Categorised by Relevance (High and Low)*

Distress	N	Mean (SD)	Min	Max	Range
High-Relevance	55	1.11 (0.76)	0	3	3
Low-Relevance	55	0.15 (0.41)	0	2	2

## 3.6 Associations explored in the data

### 3.6.1 Associations between personal relevance and post-scenario distress ratings

Personal relevance, as measured by the ERQ (Keen et al., 2008), was expected to be positively associated with the amount of distress experienced in a scenario in keeping with Keen et al.'s (2008) findings that personal relevance should associate positively with distress ratings.

A Wilcoxon Signed-Rank test showed that post-scenario ratings of distress-actual were not significantly higher than for post-scenario ratings of distress-actual in low relevance scenarios ( $Z = -1.408$ ,  $p = 0.159$ ). The same pattern was found in distress – imagined ratings ( $Z = -1.303$ ,  $p = 0.193$ ). See Table 4 for mean post-scenario ratings of distress (actual and imagined) for high and low relevance scenarios.

Table 4

*Mean Post-Scenario Ratings of Distress (Actual and Imagined) Categorized by Relevance (High and Low)*

Distress Ratings	N	Mean (SD)	Range
High-Relevance (actual)	55	4.13 (1.92)	1-7
Low-Relevance (actual)	55	4.58 (2.02)	1-7
High-Relevance (imagined)	55	2.82 (1.84)	1-7
Low-Relevance (imagined)	55	3.24 (2.05)	1-7

### 3.6.2 Associations between personally relevant scenarios and intent ratings

High personal relevance scenarios were expected to be more likely to activate participants' attachment-activation system and generate positive, negative or neutral intent, depending on their attachment style. Wilcoxon Signed-Rank tests were run to compare high relevance scenarios to low relevance scenarios and found no significant difference in the negative intent generated ( $Z=-1.46$ ,  $p = 0.144$ ), the positive intent generated ( $Z=-1.633$ ,  $p = 0.102$ ) or the neutral intent generated ( $Z=-0.5$ ,  $p = 0.617$ ) and as such did not support the hypothesis. See Table 5 for mean intent ratings (negative, positive and neutral) generated by participants categorized by relevance (high and low).

Table 5

*Mean Intent Ratings Generated by Participants Categorised by Relevance (High and Low) and Valence (Negative, Positive and Neutral) (N=55)*

Intent Generated	Mean (SD)	Range
High Relevance – Negative	0.44 (0.5)	0-1
High Relevance – Positive	0.02 (0.14)	0-1
High Relevance – Neutral	0.22 (0.42)	0-1
Low Relevance – Negative	0.56 (0.50)	0-1
Low Relevance – Positive	0.09 (0.29)	0-1
Low Relevance – Neutral	0.18 (0.39)	0-1

### 3.6.3 Associations between attachments scores and post-scenario distress ratings

The relationship between attachment anxiety and attachment avoidance, as measured by the PAM (Berry et al., 2006), and post-scenario distress ratings across scenarios was investigated using Spearman's Rank Order Correlation as it was expected that attachment anxiety would be associated with increased reported distress and attachment avoidance would be associated to a decrease in reported distress. Attachment anxiety did not correlate significantly with ratings of post-scenario distress-actual ( $r_s(55) = 0.088$ ,  $p = 0.524$ ), or ratings of post-scenario distress-imagined ( $r_s(55) = 0.143$ ,  $p = 0.298$ ) across high-relevance scenarios. There was also no significant correlation found between the total post-scenario distress ratings across all 5 scenarios for distress-actual ( $r_s(55) = 0.083$ ,  $p = 0.545$ ) or distress-imagined ( $r_s(55) = 0.083$ ,  $p = 0.547$ ). Similarly there was no significant association found when exploring correlations between attachment avoidance and post-scenario distress ratings. See Table 6 for correlations between attachment anxiety or attachment avoidance and post-scenario distress ratings.

Table 6

*Correlations between Distress Ratings (High-Relevance and Total across the 5 scenarios) and Attachment Scores (Anxiety and Avoidance) (N=55)*

		Distress- High Relevance (actual)	Distress- High Relevance (imagined)	Distress- Total (actual)	Distress- Total (imagined)
PAM Anxiety	$R_s$	0.088	0.143	0.083	0.083
	Sig*	0.524	0.298	0.545	0.547
PAM Avoidance	$R_s$	0.049	-0.151	0.088	-0.32
	Sig*	0.722	0.270	0.525	0.817

\*2-tailed significance

#### **3.6.4 Associations between PAM attachment scores and generated intent**

There were no significant differences between high and low relevance scenarios and their association with intent ratings. As such, the hypothesis that attachment anxiety would be associated with negative intent in personally relevant scenarios, i.e. high-relevance scenarios, could not be tested. Nonetheless, it was possible to test the association between attachment anxiety and attachment avoidance scores, as measured by the PAM (Berry et al., 2006), and positive, negative and neutral intent generated across the five scenarios, regardless of personal relevance. Table 6 shows the number and percentage of participants who generated positive, negative and neutral intent in the five scenarios. Attachment anxiety was expected to be associated with negative intent and fewer positive intent explanations across the five scenarios whereas attachment avoidance was expected to be associated with higher negative intent overall. The relationship between total intent ratings (negative, positive and neutral) across the five scenarios and attachment anxiety or attachment avoidance was investigated using Spearman's Rank Order correlations. Attachment anxiety was found to correlate significantly with both total negative intent ( $r_s(55) = 0.284, p < 0.05$ ) and total neutral intent ( $r_s(55) = -0.425, p < 0.01$ ) but not with total positive intent ( $r_s(55) = -0.009, p = 0.948$ ) ratings. There was no significant correlation between attachment avoidance and total negative intent ( $r_s(55) = 0.076, p = 0.581$ ), total positive intent ( $r_s(55) = -0.045, p = 0.744$ ) or total neutral intent ( $r_s(55) = 0.073, p = 0.596$ ) ratings.

For exploratory purposes, and because positive intent was generally low across scenarios (see Table 7), the two variables were collapsed. Total positive and neutral intent together was also found to correlate significantly with attachment anxiety ( $r_s(55) = -0.379, p < 0.01$ ) but not with attachment avoidance ( $r_s(55) = 0.008, p = 0.951$ ).

Table 7

*Frequency of Positive, Negative and Neutral Intent Generated across each Scenario (N=55)*

	Negative Intent	Positive Intent	Neutral Intent
Scenario	n (%)	n (%)	n (%)
Noise-Visitor	24 (44)	0 (0)	10 (18)
Herb	23 (42)	9 (16)	6 (11)
Stranger-Public Place	43 (78)	6 (11)	15 (27)
Phone-Doorbell	26 (47)	0 (0)	18 (33)
Keys	18 (33)	0 (0)	10 (18)

### **3.6.5 Associations between Adverse Childhood Experiences (ACEs) and attachment styles**

An association between higher numbers of ACEs and higher scores on attachment anxiety and higher scores on attachment avoidance, as measured by the PAM (Berry et al., 2006), was expected. Spearman's Rank Order correlation was used to investigate these associations. Attachment anxiety was not found to correlate significantly with ACEs ( $r_s(55) = 0.091$ ,  $p = 0.509$ ); however, there was a significant correlation found between ACEs and attachment avoidance ( $r_s(55) = 0.329$ ,  $p < 0.05$ ).

### **3.6.6 Associations between ACEs and post-scenario distress ratings**

It was expected that higher incidents of ACEs would be associated with higher levels of post-scenario distress ratings across personally relevant scenarios. Spearman's Rank Order correlation was used to investigate these associations. As



hypothesized, there was a significant correlation found between ACEs and personally relevant post-scenario distress ratings (actual) ( $r_s(55) = 0.273$ ,  $p < 0.05$ ) while the post-scenario distress ratings (imagined) missed significance ( $r_s(55) = 0.207$ ,  $p = 0.130$ ). No significance was found between ACEs and post-scenario distress ratings (actual or imagined) of low relevance scenarios. See Table 8 for all correlations between ACEs and post-scenario distress ratings across low and high relevance scenarios. When the post-scenario distress-ratings across the five scenarios were totaled, no significance correlations were found either between actual ( $r_s(55) = 0.245$ ,  $p = 0.072$ ) or imagined ( $r_s(55) = 0.202$ ,  $p = 0.139$ ) post-scenario distress (total) and ACEs.

Table 8

*Correlations between ACEs and Post-Scenario Distress Ratings for High and Low Relevance Scenarios (Actual and Imagined) (N=55)*

		Post-scenario Distress rating			
		High-relevance (actual)	High-relevance (imagined)	Low-relevance (actual)	Low-relevance (imagined)
Adverse Childhood Experiences	$R_s$	0.273*	0.207	0.154	0.113
	Sig		0.130	0.260	0.409

\* $p > 0.05$ , two-tailed

### 3.6.7 Associations between ACEs and intent ratings

An association between ACEs and negative intent ratings across personally relevant scenarios was anticipated. As expected, there was a significant correlation found between ACEs and negative intent ratings in personally relevant

scenarios ( $r_s(55) = 0.341, p > 0.05$ ). No significance was found between ACEs and either positive or neutral intent ratings. When exploring intent ratings across all five scenarios a significant correlation was also found between ACEs and negative intent ratings (total)  $r_s(55) = 0.304, p > 0.05$  but not between ACEs and positive intent (total) or neutral intent (total). See table 9 for results of correlations between ACEs and intent ratings).

Table 9

*Correlations between Childhood Adverse Experiences and Intent Ratings (Negative, Positive, Neutral) in Personally Relevant Scenarios and across all Five Scenarios*

		Intent Rating					
		Scenario					
		Negative	Positive	Neutral	Negative	Positive	Neutral
		High-Relevance	High-Relevance	High-Relevance	Scenarios Total-5	Scenarios Total-5	Scenarios Total-5
Adverse Childhood Experiences	R <sub>s</sub>	0.341*	-0.211	-0.174	0.304*	-0.033	-0.13
	Sig		0.122	0.203		0.810	0.927

\*p > 0.05, two-tailed

## **4 Discussion**

This study examined the reliability of using a mental simulation task (Huddy et al., 2012) to explore individual differences in attachment styles, as measured by the Psychosis Attachment Measure (PAM; Berry et al., 2006) in a young male offender population who were incarcerated. Findings from the simulation task and attachment scores were also explored in relation to participant's Adverse Childhood Experiences (ACEs). To our knowledge, this was the first time these factors have been examined together in this population. The overall goals of this exploratory study were to:

- examine the use of a mental simulation task that yields measures of intent with a young offender population as a means to explore Bowlby's (1969, 1973, 1980) concept of working models of attachment
- explore attachment patterns within this population
- explore attachment patterns in association to ACEs within this population
- inform the development of new measures of attachment

### **4.1 Summary of the results**

#### **4.1.1 Attachment anxiety and intent and distress ratings**

The first hypothesis was that individuals who scored highly on attachment anxiety, as measured by the PAM (Berry et al., 2006), would generate more negative intent ratings, less positive intent ratings and report more post-scenario distress in high relevance scenarios of the Huddy et al. (2012) simulation task.

No association was found between attachment anxiety and intent ratings for high relevance scenarios. However, when intent ratings were totalled across all five scenarios, attachment anxiety was associated positively to total negative intent

and associated negatively to total neutral intent and to total neutral-positive intent. No association was found between post-scenario distress (actual or imagined) ratings and attachment anxiety across high relevance scenarios or across all five scenarios when totalled. These findings partially supported Hypothesis 1.

#### **4.1.2 Attachment avoidance and intent and distress ratings**

It was also hypothesised that individuals who scored highly on attachment avoidance, as measured by the PAM (Berry et al., 2006), would generate more negative intent ratings and less positive intent ratings across all scenarios and report less post-scenario distress across all scenarios, regardless of personal relevance.

No associations were found between attachment avoidance and post-scenario distress (actual or imagined) ratings for high relevance scenarios or across all five scenarios. Neither was an association found between attachment avoidance and intent ratings for high relevance scenarios or across all five scenarios. These findings did not support Hypothesis 2.

As a second line of investigation, individuals' intent and distress ratings and their attachment scores were explored in relation to their ACEs.

#### **4.1.3 Attachment and Adverse Childhood Events**

Higher incidents of ACEs were expected to be associated to higher levels of attachment anxiety and attachment avoidance as measured by the PAM (Berry et al., 2006). Higher incidents of ACEs were found to be associated to attachment avoidance but not to attachment anxiety. This in part supported Hypothesis 3.

#### **4.1.4 Intent and distress ratings and Adverse Childhood Events**

Higher incidents of ACEs were also anticipated to be associated with higher post-scenario distress ratings and higher negative intent ratings across both high personal relevance scenarios and across all five scenarios. There was a significant association between ACEs and post-scenario distress-actual, but not with post-scenario distress-imagined, ratings across high relevance scenarios. Higher incidents of ACEs was also found to be associated with negative intent ratings in high relevance scenarios and to negative intent ratings across all five scenarios. These findings partially supported Hypothesis 4.

A discussion of the key findings, their relationship to existing research and theory, and implications for future clinical and research work is presented below.

## **4.2 Characteristics of the sample**

### **4.2.1 Demographic characteristics**

The ethnic mix was representative of the prison system whereby Black Minority Ethnic (BME) groups are significantly over-represented (Ministry of Justice, 2012). Approximately a quarter of the young offenders (27%) had attained no educational qualifications which placed them above the general prison population where recent government statistics (Berman & Dar, 2013) have reported nearly half (47%) of UK prisoners do not hold any academic qualifications. However, only about a third of participants attained GCSE (24%) or A-Level (9%) qualifications, suggesting that a large proportion of the participants were early-school leavers. The low level of educational achievements within the current population is also in line with correlations found between illiteracy, innumeracy and offending (Natale, 2010). Furthermore, only half of the participants ( $n=28$ , 51%) were serving their first prison sentence and as such, in line with previous findings (e.g. Natale, 2010) many of the cohort were repeat offenders.

#### **4.2.2 Adverse Childhood Events**

Nearly all participants within the current study had experience of at least one ACE (n=54, 98%) prior to the age of 18 and over a third had experienced between three and five ACEs (n=22, 40%), with *serious injury, illness or assault* being the most prevalent (n= 29, 55%). Forty-seven percent of individuals within the current study reported experiences of family violence, which is similar to findings in a recent survey of 3,849 adult (18+) prisoners within England and Wales (Williams et al., 2012) where 41% were found to have observed family violence. Williams et al., (2012) also reported that 24% of their cohort had lived with foster parents, or in an institution, or had been taken into care at some point when they were a child. Although slightly different categorizations were explored, the current study found similar results whereby 33% of participants had been separated from a primary caregiver for a year or more, and 16% had spent some time in institutional care. The high incident of ACEs within the current study is also in keeping with the literature that shows a relationship between ACEs and higher levels of criminality and antisocial behavior (Farrington 2000; Boswell & Wedge, 2002; Dallaire, 2007; Glaser et al., 2010) and also suggests that these young offenders are at increased risk of developing mental health issues such as depression, anxiety and addiction (Anda et al., 2002; Chapman et al., 2004; Springer et al., 2007).

### **4.3 Hypothesised findings in the context of previous research**

#### **4.3.1 Attachment anxiety and previous attachment theory research**

As hypothesised, attachment anxiety was associated positively with total negative intent ratings and negatively with total neutral and total neutral-positive intent ratings. This was in line with previous research that has found that individuals

with anxious attachment styles are more likely to hold negative beliefs and expectations of others (Collins, 1996). However, contrary to our expectation, those who scored highly on attachment anxiety were not more likely to report higher levels of distress. This was in contrast to previous findings, which suggests that anxiously attached individuals are more likely to experience distress in interpersonal conflicts (Collins, 1996).

It is possible that as the scenarios within the Huddy et al. (2012) simulation task are ambiguous in nature and do not contain clear attachment relevant events, this task may not have activated the participants' working models of attachment and therefore not have elicited distress. However, this does not explain the relationship found between attachment anxiety and higher negative intent ratings and lower positive or neutral intent ratings. As discussed further below (please see 'inconsistencies in the data' for further exploration) young offenders may have found it difficult to disclose that they would become distressed, and consequently it is possible that participants who scored higher on attachment anxiety may not have disclosed their actual distress for events.

#### **4.3.2 Attachment avoidance and previous attachment theory research**

Attachment avoidance was anticipated to be associated to higher negative intent ratings as research has suggested that those who score high on attachment avoidance are more likely to hold negative representations of others and their intentions (Collins & Read, 1994). This was not found to be the case. Perhaps these findings may be better understood when one considers that individuals who habitually use suppression to regulate their emotions, as is evident in those with avoidant attachment patterns (Fraley & Shaver, 1997), experience fewer sensory, contextual, and emotional details when representing both past and future events (D'Argembeau & Van der Linden, 2006). Therefore the absence of negative intent ratings may have been related to these participants using suppression. Furthermore, as expected, no associations were found between attachment



avoidance and post-scenario distress (actual or imagined) ratings for high relevance scenarios or across all five scenarios. Both of these findings can be understood within the framework of attachment-system activation put forward by Shaver and Mikulincer (2002) which proposes that individuals who score highly on attachment avoidance make use of deactivating strategies of affect regulation, such as suppression of thoughts concerning threat (e.g. Fraley, Davis & Shaver, 1998). Further supporting evidence of this model and its activation within avoidant individuals comes from studies which have found that those with avoidant attachment styles will often report positive relationships with primary caregivers and yet display restricted recall of attachment memories (e.g. Dozier & Kobak, 1992, Kobak, Cole, Ferenz-Gillies, Fleming & Gamble, 1993). Within this attachment activation model (Mikulincer & Shaver, 2003; Shaver & Mikulincer, 2007) these strategies are thought to divert attention away from difficult attachment-related thoughts by individuals claiming that they were not affected by these experiences (Dozier, Lomax, Tyrell & Lee, 2001). This is supported by Dozier and Kobak's (1992) finding that when completing the AAI (Main & Goldwyn, 1984), individuals using deactivating strategies showed marked increases in physiological arousal as measured through skin conductance levels when recalling experiences of separation, rejection and threat from parents. They suggested this supported the idea that those using deactivating strategies experience conflict or inhibition when responding to attachment-relevant themes.

#### **4.3.3 Adverse Childhood Experiences and previous attachment theory literature**

As hypothesized, higher incidents of ACEs was related to attachment avoidance, as measured by the PAM (Berry et al., 2006), but contrary to what was anticipated this same relationship was not found between ACEs and attachment anxiety. Previous research has suggested a relationship between higher incidents of ACEs and the development of an insecure attachment style (van Ijzendoorn, Schuengel & Bakerman-Kranenburg, 1999; Waters et al., 2000). However although there is

an understanding of how different parenting styles may impact insecure attachment subtype development (Rees, 2007), to our knowledge, there is less clarity in relation to how ACEs may influence the development of distinct insecure attachment styles. Thus the lack of relationship between attachment anxiety and ACEs may be related to attachment anxiety being under-reported and therefore being statistically insignificant when exploring these relationships (please see ‘inconsistencies in the data’ for further exploration).

#### ***4.3.3.1 Adverse Childhood Experiences and attachment avoidance***

Childhood adversity is, nonetheless, a known risk factor the development of psychosocial, emotional and behavioural difficulties in children (Cicchetti & Toth, 2005). Childhood adversity has also been shown to place a significant financial burden on the judicial system (Currie & Widom, 2010), and as previously noted (e.g. Cecil et al., 2014) and replicated within the current study, young offenders are likely to present with high incidents of ACEs. This may therefore account for the relationship found between ACEs and attachment avoidance. That is, according to Mikulincer and Shaver (2012), individuals who score higher on attachment avoidance tend to rely on deactivating emotion regulation strategies such as reduced proximity seeking, denial of attachment needs and avoidance of closeness and interdependence in relationships. Deactivating strategies are considered to be functional to those with avoidant attachment styles as reliance on their attachment figures and showing signs of vulnerability were disapproved of within their attachment relationships (Mikulincer & Shaver, 2012). As such, it is conceivable that experiencing higher numbers of ACEs may contribute to the development of attachment avoidance and account for the relationship found within the current study.

#### ***4.3.3.2 Adverse Childhood Experiences and negative intent***

One of the most robust findings from within the current set of results seems to be the relationship between higher incidents of ACEs and negative intent or post-scenario distress ratings. The rates of ACEs within the current study were high

and consistent with recent research exploring ACEs within a British prison population (Williams et al., 2012). As such, this could suggest that ACEs are a good indicator of possible insecure attachment styles within the current population. With this in mind, the relationship between ACEs and negative intent could yet be a good reflection of internal working model activation and is in keeping with previous research that suggests those with insecure attachments styles are likely to view others as disappointing and harmful (Mallinckrodt, 2000).

The relationship between ACEs and negative intent could also be understood in relation to the cognitive processes that may underlie the attribution of negative intent in young people. For instance, hostile attributional bias is understood as an interpretive bias wherein individuals exhibit a tendency to interpret others ambiguous behaviours as hostile rather than benign (Dodge, Price, Bacharowski & Newman, 1990). Within the attachment literature this cognitive bias can be understood within the context of early attachment relationships that are perceived as uncaring and/or unsafe, which can then lead to an individual viewing others as untrustworthy and harmful. This is reflected in a study by Weiss, Dodge, Bates and Pettit (1992) who found that young people who experienced harsh parenting, defined as parental behaviour where harmful physical punishment was used, were more likely to develop hostile attributions of intent alongside aggressive behavioural difficulties. In reviewing over 100 studies of aggressive behaviour in youths and adults, Dodge (2006) has proposed a model of the development of hostile attributional bias. Within this model he proposes that physical abuse, modeling of hostile attribution by adults and peers, failure in important life tasks, and rearing in a culture that values defense, personal honour and retaliation may all contribute to the development of a hostile attributional bias. Although these experiences were not all individually assessed in the current study, there is some overlap with the ACEs explored. This may therefore also explain the relationship found between higher levels of ACEs and negative intent.

#### ***4.3.3.3 Adverse Childhood Experiences and distress***

Similarly, the relationship between ACEs and distress may also be explained by the extensive body of literature that suggests a link between adverse childhood experiences and later psychological distress (e.g. Cicchetti & Toth, 2005; Wright, Crawford & Del Castillo, 2009). In a review of 12 ACEs with first onset of 20 DSM-IV disorders across 21 countries, Kessler et al. (2009) found that childhood adversities were highly prevalent and interrelated and were associated with maladaptive family functioning (e.g. parental mental health difficulties, maltreatment, neglect). They concluded that ACEs have strong associations with all classes of disorders across the life-span. In a similar study reviewing early life stress (ELS) and adult emotional experience in an international sample of 1659 adults without psychopathology, Cohen et al. (2006) found important associations between ELS and current emotional distress. They noted a linear increase in symptoms of depression, anxiety and stress, as measured by the Depression, Anxiety and Stress Scale (DASS; Lovibond & Lovibond, 1993) as a function of increasing number of ACEs. They concluded that links between ACEs and subclinical levels symptoms of distress can have consequences ‘even in healthy individuals’ (Cohen et al., 2006, p. 45). As such, regardless of pathology, the relationship between ACEs and distress may be accounted for by this body of literature.

#### **4.4 Reflections on inconsistencies within the data - The possible impact of social desirability**

A key question raised by the current results, is whether it could be socially undesirable to admit to attachment anxiety and distress within a prison setting. Self-report measures are understood to be influenced by social desirability concerns (Fazio & Olson, 2003; Hoffman, Gawronski, Gschwender & Schmitt, 2005), which may have impacted the responses given on both the PAM anxiety dimension (Berry et al., 2006) and on post-scenario distress ratings of individuals

who presented with a more anxious attachment style. That is, prisons have been described as hostile and aggressive environments where importance is placed on the ability to use violence as a means to protect oneself (Feld, 1981; Ireland & Ireland, 2003). Furthermore, although not systematically researched (Johnson, 1987; Wolff et al., 2007), violence, as a consequence of housing those with antisocial tendencies, has been noted as a pervasive feature within prisons (Wolff et al., 2007). Bullying, which is a subtype of violence (Smith, Cowie, Olafsoon & Liefvooghe, 2002) and can be defined to include verbal, physical or sexual abuse as well as indirect forms of bullying such as gossiping, ostracizing and rumour spreading (Ireland & Archer, 1996) has been noted as prevalent within young offenders institutes (Ireland, 2002, 2005). With this in mind, South and Wood (2006) studied the relationship between perceived social status and direct forms of bullying behaviour, namely verbal/psychological, physical, theft-related and sexual, within a male prison population (n=132). They found a positive relationship between the perceived importance of social status and bullying. They suggested that within the prison culture, where dominance over others has been shown to lead to acceptance and status (Ireland & Ireland, 2003), bullying may therefore be used as a means to gain status. Furthermore, McCorkle (1992) has suggested that the use of an offender subculture, that includes bullying and aggression, is of particular importance to young offenders.

With the literature on bullying (Ireland & Archer, 1996; Ireland, 2002/2005) and perceived social status within prisons (South & Wood, 2006) in mind it could therefore be suggested that within the current study it may have been socially undesirable for young offenders to respond to questions which may suggest they are lacking in, what colloquially may be termed, the ability to 'stand on their own two feet'. Inherent in endorsing questions related to attachment anxiety is an admission of feeling dependent on others for support. For instance, the PAM anxiety dimension (Berry et al., 2006) asked participants whether they may 'get upset, anxious or angry if other people are not there' for them (PAM question 3), and also asked whether they find it helpful to 'turn to others when [they are]

stressed' (PAM question 9), which may not be a socially desirable way to relate how oneself is viewed within a prison context. Similarly, it may have been more socially desirable to respond to questions on the attachment avoidance dimension that would suggest an individual is not reliant on the support of others (e.g. PAM question 13: 'I try to cope with stressful situations on my own'). One could go as far as to suggest that endorsing questions on the attachment anxiety scale of the PAM (Berry et al., 2006) may be perceived as showing vulnerability, which regardless of this being to a researcher within the confines of participant anonymity, may be considered risky within a prison setting. Therefore, there is the possibility that the participants under-reported attachment anxiety as measured by the PAM (Berry et al., 2006).

This line of thought may also account for the lack of any relationship between distress ratings and attachment anxiety. That is, it was anticipated that those who scored higher on attachment anxiety would also report more distress. Yet, no relationship between these two variables was noted, which may have also have been related to the social undesirability of reporting distress within a prison context.

#### **4.5 Adverse Childhood Events and negative intent ratings as a predictor of attachment insecurity**

If we consider the PAM (Berry et al., 2006) results not to be a true reflection of self-reported attachment, then this may explain some of the inconsistencies found within the data when comparing PAM scores and distress or intent ratings. This would also possibly explain the lack of a relationship between attachment anxiety and ACEs, but the presence of a relationship between attachment avoidance and ACEs. That is, within the prison it would seem socially desirable to present oneself as avoidant but not socially desirable to present oneself as anxious.

In line with previous research, (van Ijzendoorn, Schuengel & Bakerman-Kranenburg, 1999; Waters et al., 2000), it could be suggested that higher incidents

of ACEs within the current population was an indication of insecure attachment patterns and that perhaps the relationship between ACEs and intent ratings could be considered a good reflection of the concept of internal working models being activated. That is, negative intent was defined as others acting in a hostile or dismissive way towards the participant and was thought to reflect internal working models that may be activated in those with an insecure attachment style. Within the dichotomous view of adult attachment (Brennan, Clark & Shaver, 1998; Mallinckrodt, 2000) this would be deemed as having internal working models that view others as disappointing and harmful as opposed to generally benevolent and helpful (Mallinckrodt, 2000).

## **4.6 Implications - theoretical and clinical**

### **4.6.1 Theoretical implications**

Although compared to previous simulation-task research (e.g. Keen et al., 2006; Boyd & Gumley, 2007; Huddy et al., 2012), the quality of the narrative content was not examined, participants by and large engaged well and intent ratings were identifiable across all of the data and could be rated reliably. Previous research has reported motivational difficulties as a possible confounding variable when exploring narrative data within a young offender population (e.g. Snow & Powell, 2007). The successful collection of intent ratings within the simulation task would suggest an absence of unfavourable demand characteristics when completing this line of research. The use of a simulation task also avoids some of the common method biases inherent in self-report data collection (Podsakoff, MacKenzie, Lee & Podsakoff, 2003) and as such may warrant further exploration when considering research with a young offender population.

Furthermore, implicit measures of measuring working models of attachment that avoid the inherent biases of self-report measures (Pietromonaco & Barrett, 2000) and, as noted by Berry et al. (2008), that are less time-consuming than interview

based assessments such as the AAI (Main & Goldwyn, 1984) have been called for. Albeit in its infancy, this approach shows promise as a means to not only successfully engage a challenging client group with complex needs (Harvey, 2011), but also suggests a new method for exploring working models of attachment through simulation of everyday events as opposed to exploring attachment-relevant situations. However, there has been an absence within the attachment literature of taking up the call to validate more implicit methods of measuring attachment and the inconsistencies within the current findings may reflect some of the challenges inherent with this line of research.

#### **4.6.2 Clinical implications**

The young offender population under investigation showed high levels of childhood adversity, as measured by the ACEs, and a greater propensity to respond to hypothetical ambiguous scenarios that had the potential to elicit distress, with negative intent. In line with previous research (e.g. van Ijzendoorn, Schuengel & Bakerman-Kranenburg, 1999; Waters et al., 2000) this is suggestive of individuals with avoidant attachment patterns. Within the current study ACEs also correlated with attachment avoidance, as measured by the PAM (Berry et al., 2006) and as such does not suggest there is added value of using the simulation task within this population as a measurement of working models of attachment. However, the literature suggests that those who have an avoidant attachment style have been shown to use deactivating strategies such as suppression (e.g. Mikulincer et al., 2002) and regulate attachment by diverting attention away from attachment-related issues (e.g. Dozier et al., 2001). When interviewed, avoidant individuals have also been shown to dismiss attachment experiences as unimportant and unperturbing (Hesse, 1999). Furthermore, avoidant clients have been rated by treatment providers as seeming less committed and engaged (Dozier, 1990; Korfmacher et al., 1997).



Therefore, as has been suggested by researchers within other disciplines (e.g. probationary services: Ansbro, 2008; psychosis: Gumley et al., 2014) an attachment framework may be useful in considering how to engage and adapt interventions to best meet the needs of a young offender population. For instance, although not exclusive to their approach and based on their experience of working with adult sexual offenders, Baim and Morrison (2011) have put forward an attachment-based model to working with adults who present with insecure attachment styles. This approach suggests that exploring relational dynamics and patterns of interaction within the therapeutic relationship can improve outcomes when working with individuals who may otherwise be seen to be resistant to therapeutic change (Wilcox & Hudson, 2014).

From the researchers own experience, there are many skilled professionals working with young offenders across the varying disciplines (e.g. probation, prison staff, mental health and forensic practitioners). However, with an emphasis on evidence-based approaches being applied across prison settings (Grimwood & Bermann 2012) and services working directly with offenders (e.g. social work/probation, Trinder, 2008; psychology, Day & Howells, 2002) there is a sound rationale for further exploring ways of not only developing measurement tools for exploring internal working models of attachment in young offenders but also developing ways of educating staff that come into contact with young offenders regarding the different presentations apparent across the attachment patterns. This may serve to address some of the difficulties noted (e.g. Dozier, 1990; Korfmacher et al., 1997; Gumley et al., 2014) in successfully engaging those with avoidant attachment styles, and within the context of young offenders, may serve to develop interventions aimed at both reducing their criminal behaviour and improving their potential mental health difficulties. Furthermore, it has been noted that mature skills of cognitive control, including reasoning, problem solving and impulse control that have been noted to mediate aggression in young offenders (Guerra & Slaby, 1990) and are influenced by experiences of ACEs (Mueller et al., 2010), finally emerge during early adulthood (Bunge &

Wright, 2007). This further suggests that taking account of how young offenders with insecure attachment patterns may present could support the development of more effective interventions.

As already noted, childhood adversity has been shown to increase the likelihood of individuals developing a hostile attributional bias which was reflected in the current studies findings with the relationship between ACEs and negative intent. This also has implications when considering service development and delivery for young offenders who may be mistrustful of others (i.e. negative intent) which can lead to a display of a range of antisocial and violent or disruptive behavior (Ansbro, 2008). In light of the current findings a propensity towards negative intent may therefore be an indicator of underlying emotional and psychological difficulties (Keats, Maguire, Johnson & Cockersall, 2012). Although this finding may seem obvious to many practitioners who work in front-line services with young offenders, consideration could be given to this in relation to how services are developed for this population. For example, in a study investigating the relationship between initial engagement and treatment outcomes in a group of difficult-to-engage, 'high-risk' young people within an intensive mobile youth outreach service, Schley, Yuen, Fletcher and Radovini (2012) found a correlation between initial engagement and a reduction in hostility risk and greater well-being and functioning. They concluded that their service model for positive outcomes included an assessment process of up to six sessions that focused on collaborative involvement, the development of a 'strong' therapeutic alliance and individualization of treatment in regard to client (Schley et al., 2012). They specifically suggested that this model of service delivery was achievable when the initial assessment period focused on developing a relationship whereby the clients were encouraged to discuss topics that were meaningful to them (e.g. a preferred activity). They also suggested that choosing to meet with the client in an environment of their choice was also considered a means of positively engaging this client population (Schley et al., 2012). Although the location for therapeutic interventions within a prison service may be less flexible than within a

community service, a focus on engaging young offenders through topics that are meaningful to them is conceivable when adequate time for engagement over several sessions could be offered.

Some parallels can also be made between a youth offender population presenting with levels of both ACEs and negative intent and a homeless population who often have a complex history of adversity and trauma (Keats et al., 2012). Keats et al. (2012) note that services for the homeless population may be confronted with individuals who are often mistrustful of developing relationships and present to services with challenging and antisocial behavior, which is similar to the presentation of young offenders to criminal justice services (Ansbro, 2008). As originally put forward by Johnson and Haigh (2010), Keats et al. (2012) have suggested that *psychologically informed environments* (PIEs), are key to developing therapeutic environments for an at risk homeless population. They suggest five key areas for consideration when planning PIEs, namely: developing a psychological framework; consideration for the physical environment and social space; consideration of staff training and support; consideration of relationship management; and, consideration of how to evaluate service outcomes (see Keats et al. 2012 for further details). More specific to a young offender population *psychological informed planned environments* (PIPEs; Joseph & Benefield, 2010) have also been put forward as part of a strategy pathway to support those who present to the criminal justice system with a diagnosis of a personality disorder. Within PIPEs staff are trained to develop a psychological understanding of how the prison environment may be developed to feel safe (Joseph & Benefield, 201). This is suggested as a means to facilitate gains made by offenders in treatment (e.g. psychological programmes). If PIPEs are successfully set up the goal is to allow therapeutic gains made in treatment services to be generalized outside of the treatment environment, in to the prison environment and then going forward to support them with a successful transition back into the community (Joseph & Benefield, 2010). They suggest that PIPEs can be developed in prison wings, approved premises in the community and/or in hospital wards.

As such, although prison routines are often strict and regimented (Birmingham, 2003), services aiming to address the psychological needs and offending behavior of a young offender population who present with high ACEs and negative intent may also benefit from considering a flexible approach to engagement within an environment that is designed to further develop the potential for psychological well-being, as suggested by Joseph and Benefield (2010) with personality disordered offenders or by Keats et al. (2012) with a homeless population.

## **4.7 Limitations**

### **4.7.1 Study Design**

The first limitation to the design of the study relates to the correlational design of the study. As the current study was cross-sectional and exploratory in design, correlational analysis was completed from which causation in any of the relationships studied cannot be inferred. Directions of relationships are hypothesised but causal associations would need to be tested using an experimental design in which individual variables could be manipulated to assess the effects on related variables.

Secondly, the use of a comparison group, matched to the current participant group by socio-demographic characteristics may have allowed for further discussion in relation to the inconsistencies inherent in the findings such as whether environmental factors (i.e. the prison environment and culture) had an effect on responses of the self-report measures (i.e. PAM and post-scenario distress ratings).

Although the sample size recruited (n=55) exceeded the required number of participants required to detect an association at 80% power (n=36) most of the findings were only significant at 0.05 probability of level. As such replication with larger numbers would be necessary for firmer conclusions to be drawn about the relationships. A further limitation to the current study is that no corrections

were made for multiple comparisons. This may have increased the possibility of a type 1 error.

#### **4.7.2 Measures**

Firstly, the ERQ (Keen et al., 2008) was used as a means to distinguish between high and low personal relevance scenarios. There was, however, no significant difference in intent ratings found between events rated as high versus low on personal relevance and post-scenario distress ratings were found to be higher for low relevance scenarios. This may suggest that the high-low personal relevance dichotomy was erroneous. There may be a need to distinguish personal relevance across scenarios by some other means such as re-requesting personal relevance following completion of the simulation task as, it may be that the process of elaborating their stories during the simulation task prompted a shift in personal relevance. That is, the rationale for using a simulation task within Huddy et al.'s study (2012) was based on Kahneman and Tversky's (1982) concept of the simulation heuristic. The simulation heuristic suggests that the ease with which an individual can simulate a future event increases the likelihood with which that individual believes in the probability of that future event taking place (Kahneman & Tversky, 1982). The simulation heuristic was operationalised by Brown et al. (2002) in a process whereby they asked participants to elaborate on an imagined personally relevant future scenario (i.e. first time pregnant women were asked to describe going into labour). They found that participants who successfully engaged in the process of elaborating a desired outcome were more likely to report a positive outcome and less worry. As such it is conceivable that within the current study, the process of describing the events in more detail during the simulation task may have increased or decreased distress, and personal relevance, dependent on how they described each event. The elaboration of events as a means of increasing distress has also been noted within attachment literature (e.g. Dozier & Kobak, 1992). As noted by Dozier and Kobak (1992), when individuals with avoidant attachment patterns were asked to elaborate on attachment events during the AAI (Main & Goldwyn, 1984) they were noted as experiencing

increased physiological arousal and they concluded that these individuals were made uncomfortable by the demands to elaborate on attachment-relevant issues.

Secondly, the lack of a second measure of attachment to assess the concurrent validity of the PAM (Berry et al., 2006) can also be considered a limitation to the current study. Although the PAM has been shown to have construct validity (Barrowclough & Liversidge, 2006; Berry et al., 2007) within two independent non-clinical samples and concurrent validity has been obtained within a clinical sample (Berry et al., 2008) it has not been previously used within a prison population. As already discussed, it is possible that within a young offender population, it may have not been socially desirable to disclose attachment anxiety and a second measure may have allowed for further analysis of this concern.

Thirdly, this was the first time the simulation-task (Huddy et al., 2012) was used to explore activation of internal working models. As such, without further study it imposes limitations on what can be inferred with respect to the underlying theory. That is, the failure to find consistency between intent ratings and attachment scores of avoidance and anxiety, as measured by the PAM, and to a lesser extent, the distress-ratings, means that evidence is lacking that the simulation task taps into internal working models of attachment in any way. Indeed, the findings could be accounted for on the basis of other individual or group characteristics. For instance, negative intent expressed in the scenarios may have been influenced by other aspects of simulation construction such as reliance on autobiographical memory events. That is, the population under investigation, by virtue of being young offenders, may have found it easier to construct narratives that contained negative intent because they had more experience of this within their daily lives (e.g. in the scenario where a man comes and sits next to you, many of the participants referred to this person as being an informant for the police or a member of a gang, which clearly suggested negative intent yet may have been normative and not distressing to a young offender population).

#### **4.7.3 Generalizability**

The participants within the current study were a good representation of a young offender population as there was a variety of ages and variation in ethnicity. However, they were all between the ages of 18 and 25 and lived in London boroughs. The London prison population has been noted to be different to other parts of the country due to its cosmopolitan nature (Hurry, Rogers, Simonot & Wilson, 2012) and as such, as is a common limitation in such research, the findings may not be generalizable to younger or older offender populations from other areas of the country and would require replication in different groups.

#### **4.8 Future research**

As this study was exploratory in nature and the relationships between attachment patterns, intent ratings, distress ratings and ACEs showed inconsistencies future research may benefit from the following:

Future research may wish to explore the use of the simulation task with scenarios that are both attachment relevant, as in the Collins (1996) study and attachment irrelevant scenarios, as in the Huddy et al. (2012) study, as a means to explore the validity of using such a task to explore working models of attachment. This would allow for further exploration of whether internal working models of attachment, as theorised by Bowlby (1969, 1973, 1980) are in fact activated outside of attachment relevant situations.

Given that social desirability may have impacted the responses given to the PAM (Berry et al., 2006) and post-scenario distress ratings within the prison environment, future research may wish to explore the use of the simulation task using comparison groups outside of a prison setting.

The use of the AAI (Main & Goldwyn, 1984) was ruled out in the current study due to the challenges of accessing prisoners during limited 'out-of-cell time'.

Future research, however, may wish to explore means by which this gold-standard measure of attachment could be used, which would allow further exploration of the utility of the simulation task and measures of intent to explore activation of internal working models.

What is apparent from the current study is the complexity of the needs of this young offender population. The participants were found to have a history of childhood adversity and low levels of education. Experiences of childhood adversity have been linked to both an increased risk to mental health difficulties (e.g. Chapman et al., 2004; Edwards et al., 2003; Schilling, et al, 2007; Fraser, Gatherer & Hayton, 2009) and higher levels of criminality (Boswell & Wedge, 2002; Dallaire, 2007; Glaser et al., 2010; Farrington 2000). Lower educational achievements in young people have also been associated to an increased risk of mental health difficulties (Chitsabesan et al. 2006; Patel et al., 2007). More specific to the current participant group, unmet educational needs within offenders has been related to higher rates of re-offending (Natale, 2010). Future research exploring attachment styles within young offenders may therefore wish to make use of a routine measure of mental well-being (e.g. Clinical Outcomes in Routine Evaluation; Connell & Barkham, 2007) which has been validated with an offender population (Vallentine, Tapp, Dudley, Wilson & Moore, 2010) as a means to further explore these relationships.

Although the current study did not seek to establish the validity of using a self-report measure such as the PAM (Berry et al., 2006) within a young offender population, it has been suggested that social desirability may have impacted how participants responded to questions on the anxiety dimension of the PAM. Therefore, the use of the AAI (Main & Goldwyn, 1984) as a second measure of attachment may also allow for concurrent validity of the PAM (Berry et al., 2006) to be measured within a young offender population.



## **4.9 Concluding comments**

The inconsistencies within the findings did not support the proposal of using the mental simulation task (Huddy et al., 2012) as a measure of internal working models of attachment in a young offender population. However, the findings did suggest the possibility of higher levels of insecure attachment patterns, and more specifically the use of deactivating strategies such as suppression, within this population. Of interest to the researcher is the means by which this information may inform the work of practitioners who come into contact with this population. The literature would suggest that individuals who use deactivating strategies will often present a persona to professionals of having had good past attachment relationships, but yet when pressed will find further elaboration of these stories causes discomfort and disengagement (e.g. Dozier & Kobak, 1995). Within other clinical populations (e.g. psychosis, Gumley et al., 2014) individuals with avoidant attachment styles are also more likely to disengage with services, which can lead to deterioration of mental well-being. Within a young offender population, it has also been suggested that there is a subculture of bullying whereby dominance of others can lead to acceptance and status (Ireland & Ireland, 2003). As such, these findings suggest that there is a need for professionals working with this population to scratch beyond the surface and understand the relational patterns of young offenders as a means to effectively engage them in meaningful strategies to not only reduce re-offending but also improve mental well-being.

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## Appendices

### Appendix 1: Confirmation of Ethical Approval Forms

#### *Ethical Approval - NHS Research Ethics Service Committee*



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Facsimile: 01173420445

28 August 2013

Dr Lucia Valmaggia  
Senior Lecturer, Consultant Clinical Psychologist  
King's College London, Institute of Psychiatry & OASIS in Prison, South London Maudsley NHS  
Trust  
16 De Crespigny Park  
London  
SE5 8AF

Dear Dr Valmaggia

**Study Title:** Real-world reasoning and attachment in offenders  
**REC reference:** 13/LO/1036  
**Protocol number:** n/a  
**IRAS project ID:** 129882

The Research Ethics Committee reviewed the above application at the meeting held on 14 August 2013. Thank you for attending to discuss the application.

#### **Documents reviewed**

The documents reviewed at the meeting were:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Covering Letter		17 June 2013
Evidence of insurance or indemnity		20 July 2013
Investigator CV		22 April 2013
Other: Summary CV for supervisor (student research)		22 April 2013
Other: Summary CV for student		22 April 2013
Participant Consent Form		07 June 2012
Participant Information Sheet		07 June 2013
Protocol	2	07 June 2013
Questionnaire: PAM and Huddy et al simulation task		
REC application		17 June 2013
Summary/Synopsis		22 April 2013

#### Issues Discussed

- The Committee noted that the participants will be recruited via Oasis. The Committee asked Ms Matthews about her relationship with Oasis. Ms Matthews explained that she is doing this study in association with Oasis and she will have a 6 month placement with Oasis after the study.
- The Committee queried if all the participants will be recruited using the only screening methods mentioned in the application. Ms Matthews confirmed the same.
- The Committee asked Ms Matthews how she will manage in case any of the inmates come across as aggressive or distressed. Ms Matthews explained that she has had experience and training in similar studies. She will use her own judgment and experience and the guidelines in the protocol.
- The Committee queried if the tests/procedures will take place in the healthcare wing. Ms Matthews confirmed the same. She further explained that since there will be audio recordings to be done, this will have to be done in the healthcare wing. The Committee advised Ms Matthews that the audio recordings should be clearly mentioned in the PIS as there is no information provided regarding the recordings. Ms Matthews agreed to include the same.
- The Committee queried if there will be enough new inmates available to recruit for both phases of the study. You stated that as per your knowledge and experience there will be enough new inmates to recruit for the studies.
- The Committee noted that Oasis is the service provider as well as the researcher for this study, which could lead to some possible conflict of interests. You explained that Oasis have been funded to both provide the service as well as improve the service provided as well. They are not yet commissioned to do this but are looking to get commissioned in near future. They are a part of the SLAM NHS trust and do not work as an independent company or a commercial organization.
- The Committee noted that the even though the study is for completion of the PhD, the student is not acting as Chief Investigator for the study. You explained that since it is quite sensitive research involving prison visits, you wanted to take the full responsibility and therefore decided to lead the study.
- The Committee noted that the PIS mentions the issue of disclosing any incidents of harm to self and others but it is not clear as to how and when this will be discussed with the inmates. This could be a burden for the student who may have limited experience of dealing with such situations. Ms Matthews explained that she will primarily depend on her previous judgment and experience and the circumstances at that time. They will also consult with the prison officers. The Committee however requested Ms Matthews to get back with a more detailed response.

### Provisional opinion

The Committee is unable to give an ethical opinion on the basis of the information and documentation received so far. Before confirming its opinion, the Committee requests that you provide the further information set out below.

Authority to consider your response and to confirm the Committee's final opinion has been delegated to a meeting of the sub-committee of the REC.

### Further information or clarification required

1. Audio recordings should be clearly mentioned in the PIS. More information should be provided regarding the tapes/recordings. It is not mentioned if everything will be recorded or just the simulation exercises. It is not clear if these recordings could be used in the courts and if so would the prisoners need to know that. Please explain.
2. The purpose of the research and the role of Oasis need to be clarified in greater detail in the PIS.
3. Response to the question A23 does not answer the question adequately. There can be some embarrassing or sensitive situations but it is not clear as to how will such situations be dealt with. Please explain
4. It is not clear as to how will the psychoses tests be analysed. Please explain
5. There are a number of typographical errors in the PIS that need to be checked and revised.
6. It is not clear if both the pilot and main phases will go on simultaneously and how many participants will be recruited for both. Please explain
7. PIS mentions the issue of disclosing any incidents of harm to self and others but it is not clear as to how and when this will be discussed with the inmates. This could be a burden for the student who may have limited experience of dealing with such situations. Please provide a more detailed response as discussed at the meeting.

**If you would find it helpful to discuss any of the matters raised above or seek further clarification from a member of the Committee, you are welcome to contact Rajat Khullar, Committee Coordinator.**

When submitting your response to the Committee, please send revised documentation where appropriate underlining or otherwise highlighting the changes you have made and giving revised version numbers and dates.

If the committee has asked for clarification or changes to any answers given in the application form, please do not submit a revised copy of the application form; these can be addressed in a covering letter to the REC.

The Committee will confirm the final ethical opinion within a maximum of 60 days from the date of initial receipt of the application, excluding the time taken by you to respond fully to the above points. A response should be submitted by no later than 27 September 2013.



#### **Membership of the Committee**

The members of the Committee who were present at the meeting are listed on the attached sheet.

#### **Statement of compliance**

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

13/LO/1036
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Please quote this number on all correspondence
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Yours sincerely



pp Mrs Vera Hughes  
Chair

Email: [nrescommittee.london-cityandeast@nhs.net](mailto:nrescommittee.london-cityandeast@nhs.net)

*Enclosures: List of names and professions of members who were present at the meeting and those who submitted written comments.*

*Copy to: Ms Jenny Liebscher, King's College London, Institute of Psychiatry*

**NRES Committee London - South East**

**Attendance at Committee meeting on 14 August 2013**

**Committee Members:**

<i>Name</i>	<i>Profession</i>	<i>Present</i>	<i>Notes</i>
Dr Ashok Bhiman	Consultant Psychiatrist	No	
Professor David Caplin	Physicist	No	
Ms Stephanie Cooper	Retired Solicitor	Yes	
Mr Ron Driver	University Lecturer/Statistician	Yes	
Professor John Eastwood	Consultant Renal Physician	No	
Dr Alan Fishtal	GP	Yes	
Dr Ann Gallagher	Reader in Nursing Ethics (Nurse Member)	Yes	
Mr Guy Gardener	Retired Assistant Chief Constable	Yes	
Mrs Vera Hughes	Training Consultant	Yes	
Dr Robin MacKenzie	Director Medical Law & Ethics	No	
Mr Roy Sinclair	Pharmacist	Yes	
Mr Graham Smith	Business Consultant	Yes	
Ms Vanda Taylor	Senior Cancer Information Nurse	No	

**Also in attendance:**

<i>Name</i>	<i>Position (or reason for attending)</i>
Mrs Cathy Chesham	Senior Coordinator
Mr Jonathan Fennelly-Barnwell	Regional Manager, South-NRES
Mr Rajat Khullar	Committee Coordinator

**Written comments received from:**

<i>Name</i>	<i>Position</i>
Ms Vanda Taylor	Senior Cancer Information Nurse

## Ethical Approval – National Offender Management Service

### **APPROVED – NOMS RESEARCH**

Dr Lucia Valmaggia  
King's College London,  
Institute of Psychiatry & OASIS in Prison,  
South London  
Maudsley NHS Trust  
16 De Crespigny Park,  
London  
SE5 8AF  
[lucia.valmaggia@kcl.ac.uk](mailto:lucia.valmaggia@kcl.ac.uk)

**National Offender Management Service**  
*National Research Committee*  
Email: [National.Research@noms.gsi.gov.uk](mailto:National.Research@noms.gsi.gov.uk)

15 November 2013

**Ref:** 2013-216

**Title:** Real world reasoning and attachment in offenders

Dear Dr Valmaggia,

Further to your application to undertake research across NOMS, the National Research Committee (NRC) is pleased to grant approval in principle for your research.

Please note that the decision to grant access to prison establishments or probation trusts (and the offenders and practitioners within these establishments/trusts) ultimately lies with the Governing Governor or Contract Manager of the establishment/trust concerned. If establishments/trusts are to be approached as part of the research, a copy of this letter must be attached to the request to prove that the NRC has approved the study in principle. The decision to grant access to existing data lies with the Information Asset Owners (IAOs) for each data source and the researchers should abide by the data sharing conditions stipulated by each IAO.

Before the research can commence you must agree formally by email to the NRC ([National.Research@noms.gsi.gov.uk](mailto:National.Research@noms.gsi.gov.uk)), confirming that you will comply with the terms and conditions outlined below and the expectations set out in the NOMS Research Instruction

(<http://www.justice.gov.uk/downloads/offenders/psipso/psi-2012/psi-13-2012-research-application.doc>).

Please quote your NRC reference number in all future correspondence.

Yours sincerely,

National Research Committee

**National Research Committee - Terms and Conditions**

## **All research**

- **Changes to study** - Informing and updating the NRC promptly of any changes made to the planned methodology.
- **Dissemination of research** The researcher should prepare a research summary for NOMS (approximately three pages; maximum of five pages) which (i) summaries the research aims and approach, (ii) highlights the key findings, and (iii) sets out the implications for NOMS decision-makers. It should be submitted to the NRC alongside the NRC project review form (which covers lessons learnt and asks for ratings on key questions). Provision of the research summary and project review form is essential if the research is to be of real use to NOMS. The report should use language that an educated, but not research-trained person, would understand. It should be concise, well organised and self-contained. The conclusions should be impartial and adequately supported by the research findings. Further guidance on the format of the report is available on request.
- **Publications** - The NRC ([National.Research@noms.gsi.gov.uk](mailto:National.Research@noms.gsi.gov.uk)) receiving an electronic copy of any papers submitted for publication based on this research at the time of submission and at least one month in advance of the publication.
- **Data protection** - Compliance with the requirements of the Data Protection Act 1998 and the Offender Management Act 2007-
  - <http://www.legislation.gov.uk/ukpga/1998/29/contents>
  - <http://www.legislation.gov.uk/ukpga/2007/21/contents>

Researchers should store all data securely and ensure that information is coded in a way that maintains the confidentiality and anonymity of research participants. The researchers should abide by any data sharing conditions stipulated by the relevant data controllers.

- **Research participants** - Consent must be given freely. It will be made clear to participants verbally and in writing that they may withdraw from the research at any point and that this will not have adverse impact on them. If research is undertaken with vulnerable people – such as young offenders, offenders with learning difficulties or those who are vulnerable due to psychological, mental disorder or medical circumstances - then researchers should put special precautions in place to ensure that the participants understand the scope of their research and the role that they are being asked to undertake. Consent will usually be required from a parent or other responsible adult for children to take part in the research.
- **Termination** - NOMS reserves the right to halt research at any time. It will not always be possible to provide an explanation, but NOMS will undertake where possible to provide the research institution/sponsor with a covering statement to clarify that the decision to stop the research does not reflect on their capability or behaviour.

### **Research requiring access to prison establishments and/or probation trusts**

- **Access** - Approval from the Governor of each establishment / Chief Executive of the probation trust you wish to research in. (Please note that NRC approval does not guarantee access to establishments/trusts; access is at the discretion of the Governor/Chief Executive and subject to local operational factors and pressures). This is subject to clearance of vetting procedures for each establishment/trust.
- **Security** - Compliance with all security requirements.
- **Disclosure** - Researchers are under a duty to disclose certain information to prison establishments/probation trusts. This includes behaviour that is against prison rules and can be adjudicated against, undisclosed illegal acts, and behaviour that is potentially harmful to the research participant (e.g. intention to self-harm or complete suicide) or others. Researchers should make research participants aware of this requirement. The Prison Rules can be accessed here and should be reviewed:  
[http://www.justice.gov.uk/downloads/offenders/psipso/psipso/PSO\\_0100\\_the\\_prison\\_rules\\_1999.doc](http://www.justice.gov.uk/downloads/offenders/psipso/psipso/PSO_0100_the_prison_rules_1999.doc)

## Ethical Approval - South London and Maudsley Research and Development Office

**Institute of  
Psychiatry**

at The Maudsley

Research and  
Development  
Office

Box P006  
De Crespigny Park  
Denmark Hill  
London SE5 8AF  
Tel +44 (0)20 7848 0790  
Fax +44(0)20 7848 0147  
[www.iop.kcl.ac.uk/RandD](http://www.iop.kcl.ac.uk/RandD)

**KING'S**  
College  
**LONDON**  
*Founded 1829*

Dr. Lucia Valmaggia  
Senior Lecturer, Consultant Clinical Psychologist  
Institute of Psychiatry  
16 De Crespigny Park  
London  
SE5 8AF

18 November 2013

Dear Dr. Valmaggia

**Trust Approval: R&D2103/106**  
**Title: Real-world reasoning and attachment in offenders**  
**REC Reference: 13/LO/1036**

I am writing to confirm approval for the above research project at South London and Maudsley NHS Foundation Trust. This approval relates to work in the Psychosis CAG and to the specific protocol and informed consent procedures described in your R&D Form. Any deviation from this document will be deemed to invalidate this approval. Your approval number has been quoted above and should be used at all times when contacting this office about this project.

Amendments, including extending to other Trust directorates will require further approval from this Trust and where appropriate the relevant Research Ethics Committee. Amendments should be submitted to this R&D Office by completion of an R&D Amendment form together with any supporting documents. A copy of this is attached ([R and D Amendment Form V3.doc](#)), but is also available on the R&D Office website.

[King's College London - Research and development approval](#)

I can confirm that King's College London will be taking on the role of Sponsor for this study.

Approval is provided on the basis that you agree to adhere to the Department of Health's Research Governance requirements including:

- Ethical approval must be in place prior to the commencement of this project.
- As Chief Investigator and/or Principal Investigator for this study you have familiarised yourself with, and accept the responsibilities commensurate with this position, as outlined in the Research Governance Framework

[http://www.dh.gov.uk/prod\\_consum\\_dh/groups/dh.digitalassets/@dh/@en/documents/digitalasset/dh\\_4122427.pdf](http://www.dh.gov.uk/prod_consum_dh/groups/dh.digitalassets/@dh/@en/documents/digitalasset/dh_4122427.pdf).

South London and Maudsley   
NHS Foundation Trust

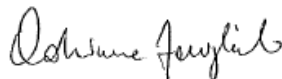
- Compliance with all policies and procedures of the Trust which relate to research, and with all relevant requirements of the Research Governance Framework. In particular the Trust Confidentiality Policy.  
<http://www.slam.nhs.uk/media/107386/confidentiality%20policy.pdf>
- Co-operating with the Trust R&D Office's regular monitoring and auditing of all approved research projects as required by the research governance framework, including complying with ad hoc requests for information.
- Informing the Trust's Health and Safety Coordinators and/or the Complaints Department or of any adverse events or complaints, from participants recruited from within this Trust, which occurs in relation to this study in line with Trust policies. Contact details are available from the R&D Office if required.
- Sending a copy of any reports or publications which result from this study to the Trust Departments involved in the study if requested.
- Honorary Contracts must be in place prior to patient contact for all relevant members of the research team. Advice on this will be provided by the R&D Office at the point of obtaining R&D approval and on an ongoing basis for new members of staff joining the research team.
- Sending a copy of the annual reports and end of project notification submitted to ethics.

Failure to abide by the above requirements may result in the withdrawal of the Trust's approval for this research.

If you wish to discuss any aspect of this research approval with the R&D Office, please contact Jenny Liebscher [jennifer.liebscher@kcl.ac.uk](mailto:jennifer.liebscher@kcl.ac.uk) in the first instance.

I wish you every success with this study.

Yours sincerely



**Adriana Fanigliulo**  
**Research Governance Facilitator**  
**SLaM/IoP R&D Office**

Enc. R&D Approval Amendment Form

## Appendix 2: Participant Information Sheet

Institute of  
Psychiatry  
at The Maudsley

**KING'S**  
College  
**LONDON**  
Founded 1829  
University of London

(Protocol Number: ....)

### Information Sheet for Participants (Version 3, 09/09/2013)

#### Title of Study

Real-world reasoning and attachment in offenders

#### We would like to invite you to participate in this original research study.

This study will develop a user friendly measure of how people form relationships to others (attachment) and how they think about the world (reasoning). You should only take part if you want to. Choosing not to take part will not disadvantage you in any way. Before you decide whether you want to take part, it is important to explain why we want to do the research and what it will involve. Please take time to read the following information carefully and talk to other people about it if you wish.

#### Purpose of the study

The study is trying to find out if we can measure how people understand other people and relationships using a new type of test. We hope that the test will shorten assessment times. It could also be more sensitive than some of tests that are used.

#### Why have I been invited to take part?

We are asking everyone who has been screened by the OASiS in Prison team to take part.

#### Do I have to take part?

No, it is up to you to decide whether or not to take part. If you do decide to take part you will be given this information sheet to keep and will be asked to sign a consent form. If you decide to take part you are still free to withdraw at any time, without giving a reason. Your decision will not affect the services you receive from the prison.

#### What will happen if I take part?

- If you decide you would like to take part in our study we will organise to meet with you on the Health Wing.
- When we meet with you we will start by telling you what you will be doing in the study. Then we will explain to you that if you tell us anything during the study that makes us worried about you harming yourself or harming anyone else that we might need to tell other people in the prison to make sure we keep you



and others safe. This might mean telling the Prison Health Care team or if we need to we will tell the Wing Officer.

- Our study does not ask you to talk about your criminal offences. However, if you do tell us something that indicates you may have committed a criminal offence that has not already been dealt with by the courts we will need to pass this on to the relevant authorities.
- Once you understand what you are being asked to do we will ask you to sign a form giving your written consent to take part in our study.
- The researcher will need to have access to the health care assessments you completed with the OASiS prison team. This means you do not have to repeat questions about your age, background, substance use, and difficulties with other people you may have had in the past. If you have not already had this assessment and you wish to take part in the study the researcher will arrange an appointment for you to first meet with the OASiS in prison team.
- In the study you will be asked to tell stories about five everyday events and then afterwards tell us what it was like to tell the stories. We will audio record your answers to the five stories so that after the test we can write down exactly what you said to us. We will also ask you to fill out a questionnaire, which asks you about how you are with other people (for example, when asking for things). This will take around 60 minutes to complete.

#### **If I agree to take part what happens to the information?**

All the information we obtain from you and your medical records is confidential. It will be used for the purpose of research only. The information will be used in a way that will not allow you to be identified.

We will audio-record the answers that you give to the five short stories. These audio-recordings will be written down and your answers will be kept on a computer. Once we have written down what you said we will delete your audio-recordings.

All of the information we collect will be kept on a computer but your name will not be linked to it in any way.

#### **Is there any risk involved in taking part?**

There are no expected risks to you. However, if you feel taking part has harmed you in any way or if you feel you have any further questions, tell your personal officer. They will then tell us and we will come back and see you.

#### **What will happen to the results of the research study?**

The results of the study will help us understand the causes of mental health problems and will help developing better assessments. Copies of any published results will be available to you on request.

**Who is organising and funding the research?**

The study is carried out by the Department of Psychology, King's College London Institute of Psychiatry in collaboration with the OASiS in prison team. The researcher will be working in the prison as a trainee clinical psychologist with the OASiS in prison team, which is part of the South London and Maudsley NHS Trust. The study is being completed by the researcher as part of their studies to become a Clinical Psychologist.

**Who has reviewed the study?**

Before any research goes ahead it has to be checked by a Research Ethics Committee. They make sure that the research is fair. This project has been checked by the \_\_\_\_\_ Research Ethics Committee.

**Contact for further information**

Whenever you want to get more information on this study, please contact:

Sorcha Mathews  
Trainee Clinical Psychologist student  
Contactable via OASIS in Prison

The student's supervisors for this project are:  
Dr Vyv Huddy & Dr Lucia Valmaggia  
Clinical Psychologists  
Contactable via OASIS in Prison

**Thank you for considering taking part in this study. You will be given a copy of the information sheet to keep.**

### Appendix 3 Participant Consent Form

Institute of  
Psychiatry  
at The Maudsley

**KING'S** College  
**LONDON**  
Founded 1829  
University of London

#### Real-world reasoning and attachment in offenders Consent form (Version 2, 07/06/2013)

Name: \_\_\_\_\_

ID number: \_\_\_\_\_

Please init  
boxes

1. I confirm that I have read and understood the attached information sheet and have had the opportunity to ask questions.

☐

OR

- I confirm that I have had the attached information sheet explained to me and have had the opportunity to ask questions.

☐

2. I understand that my participation is voluntary and that I can withdraw from the study at any time without having to give any reason, and without my medical care or legal rights being affected.

☐

3. I consent to my medical records being looked at by a member of the research team.

☐

4. I consent to the audio recording of during the study

☐

5. I agree to take part in this research project.

☐

\_\_\_\_\_  
Signature of Participant

Date

\_\_\_\_\_  
Signature of Researcher

Date

## Appendix 4 Participant Socio-demographic details

Gathered as part of the *OASiS in Prison* Screening Pack

### Socio-Demographic Information

Date of Birth: \_\_\_\_\_ Age \_\_\_\_\_ Borough: \_\_\_\_\_

Ethnicity	<input type="checkbox"/>	Black British	
	<input type="checkbox"/>	Black African	
	<input type="checkbox"/>	Black Caribbean	
	<input type="checkbox"/>	White British	
	<input type="checkbox"/>	White Other	please specify _____
	<input type="checkbox"/>	Asian Oriental	
	<input type="checkbox"/>	Asian Indian	
	<input type="checkbox"/>	Middle-East Arab	
	<input type="checkbox"/>	Mixed	
	<input type="checkbox"/>	Other	please specify _____

Country of birth:

Age left full-time education: \_\_\_\_\_ Highest qualification achieved: \_\_\_\_\_

Mother's occupation: mother's birth:	Year of mother's birth:	Country of
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Father's occupation: father's birth:	Year of father's birth:	Country of
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## Appendix 5 Adverse Childhood Experiences Questionnaire

### Trauma inventory (OASiS in Prison Screening Pack)

While growing up: Have you been bullied?

☐ No ☐ Yes From the age of \_\_\_\_\_ till the age of \_\_\_\_\_

When you were a child or teenager were you ever hit repeatedly with an implement (such as a belt or stick) or punched, kicked or burnt by someone in the household?

☐ No ☐ Yes From the age of \_\_\_\_\_ till the age of \_\_\_\_\_

While growing up: did you see or hear family violence?

☐ No ☐ Yes From the age of \_\_\_\_\_ till the age of \_\_\_\_\_

While growing up: Have you ever been separated from your parent for one year or more?

☐ No ☐ Yes From the age of \_\_\_\_\_ till the age of \_\_\_\_\_

While growing up: Were you ever in a children's home or institution:

☐ No ☐ Yes From the age of \_\_\_\_\_ till the age of \_\_\_\_\_

When you were a child or teenager did you ever have any unwanted sexual experiences?

☐ No ☐ Yes From the age of \_\_\_\_\_ till the age of \_\_\_\_\_

Have you ever suffer from a serious illness, injury or an assault?

☐ No ☐ Yes When?

Have you ever discriminated against because of your ethnicity?

☐ No ☐ Yes When?

## Appendix 6: Psychosis Attachment Measure (PAM; Berry et al., 2006)

### PAM

We all differ in how we relate to other people. This questionnaire lists different thoughts, feelings and ways of behaving in relationships with others.

### PART A

Thinking generally about how you relate to other key people in your life, please use a tick to show how much each statement is like you. Key people could include family members, friends, partner or mental health workers.

There are no right or wrong answers

	Not at all	A little	Quite a bit	Very much
1. I prefer not to let other people know my 'true' thoughts and feelings.	(..)	(..)	(..)	(..)
2. I find it easy to depend on other people for support with problems or difficult situations.	(..)	(..)	(..)	(..)
3. I tend to get upset, anxious or angry if other people are not there when I need them.	(..)	(..)	(..)	(..)
4. I usually discuss my problems and concerns with other people.	(..)	(..)	(..)	(..)
5. I worry that key people in my life won't be around in the future.	(..)	(..)	(..)	(..)
6. I ask other people to reassure me that they care about me.	(..)	(..)	(..)	(..)
7. If other people disapprove of something I do, I get very upset.	(..)	(..)	(..)	(..)
8. I find it difficult to accept help from other people when I have problems or difficulties.	(..)	(..)	(..)	(..)
9. It helps to turn to other people when I'm stressed.	(..)	(..)	(..)	(..)
10. I worry that if other people get to know me better, they won't like me.	(..)	(..)	(..)	(..)

	<b>Not at all</b>	<b>A little</b>	<b>Quite a bit</b>	<b>Very much</b>
11. When I'm feeling stressed, I prefer being on my own to being in the company of other people.	(..)	(..)	(..)	(..)
12. I worry a lot about my relationships with other people.	(..)	(..)	(..)	(..)
13. I try to cope with stressful situations on my own.	(..)	(..)	(..)	(..)
14. I worry that if I displease other people, they won't want to know me anymore.	(..)	(..)	(..)	(..)
15. I worry about having to cope with problems and difficult situations on my own.	(..)	(..)	(..)	(..)
16. I feel uncomfortable when other people want to get to know me better.	(..)	(..)	(..)	(..)

## Appendix 7: Mental Simulation Task (Huddy et al. 2012) with modifications

### Simulation Task Instructions

- **General Instructions**

"What I am going to ask you to do today is meant to be very simple, it's not a test, and there are no right or wrong answers. I am going to describe to you the beginning of a story, and the end of a story and what I want you to do is tell me *step-by-step* what you think would happen in the middle.

**It is your story and so I would like you to describe to me what you might be thinking and feeling as you tell it to me. Your story should also explain to me what other people in the story might want or what they might be doing.**

PAUSE

Does that make sense? (clarify instructions as needed).

Don't worry if it's not totally clear because we are going to go through a few examples

- **Warm up exercise**

"Just to give you an idea of how it will work, I would like you to tell me step-by-step how you got here today from the time that you woke up to now, sitting here with me. So at the beginning of the situation you wake up, and at the end of the situation you arrived here. Tell me what happened in between step-by-step. **Remember to include in your story what you might be thinking or feeling as well as explain to me what other people might want or what they might be doing.**"

- **If a response including sufficient detail is obtained, say:** *"Good, you've got the idea, remember the way you told me what would happen step-by-step. Now let's try a practice story before we begin for real. What I'm looking for is something very specific."*
- **If a response is limited, say** *"I'm going to be looking for more detail. What I'm interested in is a step-by-step account of what happened in between the beginning and end of the story. Let's try it again."* Then repeat the warm up exercise.



"I am going to describe to you the beginning of a future situation and the end of the situation and I want you to tell me what you imagine the middle will be. **At the beginning of the scenario, you are at home and hear a noise coming from somewhere nearby. A visitor arrives and the noise stops.**

1	2	3	4	5
---	---	---	---	---

"I am going to describe to you the beginning of a future situation and the end of the situation and I want you to tell me what you imagine the middle will be. **At the beginning of the scenario, you are a guest for dinner at your new neighbour's home and your neighbour makes some food for you with some herbs that you don't recognise.**

1                  2                  3                  4                  5

“I am going to describe to you the beginning of a future situation and the end of the situation and I want you to tell me what you imagine the middle will be. **At the beginning of the scenario, you are sitting in a public place and someone sits down next to you and starts speaking to you. They are very keen to talk and ask you about yourself.**

1                      2                      3                      4                      5

**4. (Order \_\_ )**

“I am going to describe to you the beginning of a future situation and the end of the situation and I want you to tell me what you imagine the middle will be. **At the beginning of the scenario, you are checking your telephone messages and there are a number of hang ups—someone has phoned and not left a message.**

Take a moment to imagine that. Imagine what you or others might be feeling or thinking as you go through the situation. **At the end of the scenario, your doorbell rings but when you go to the door no one is there.** Now go back to the beginning of the situation, where you are checking your messages, and describe step-by-step exactly what will happen from that point onwards. **Remember to include what you or others might be feeling and or thinking through the story.**

1
2
3
4
5

**5. . (Order \_\_ )**

"I am going to describe to you the beginning of a future situation and the end of the situation and I want you to tell me what you imagine the middle will be. **At the beginning of the scenario, you can't find your keys where you usually leave them.**

Take a moment to imagine that. Imagine what you or others might be feeling or thinking as you go through the situation. **At the end of the scenario, it is several hours later and your keys turn up in their usual place.** Now go back to the beginning of the situation, where you are looking for your keys, and describe step-by-step exactly what will happen from that point onwards. **Remember to include what you or others might be feeling and or thinking through the story.**

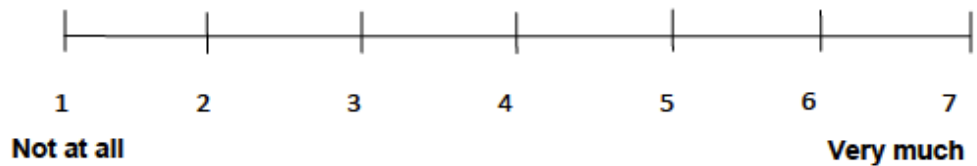
1                      2                      3                      4                      5

### Post-scenario ratings scale

### Post Scenario Ratings

Please rate the following four questions on a scale of 1 – 7

1 = Not at all  
7 = Very much



- (1) I can easily imagine (picture) what I just described in that scenario
- (2) I can see something like that actually taking place
- (3) How distressing is it to think about that situation?
- (4) How distressing is the prospect of what you've described in that situation actually happening?
- (5) How safe would you feel in that situation?

## **Huddy et al (2012) mental simulation instructions prior to modifications**

### **Simulation Task Instructions**

**‘This next task is about imagining yourself in situations that might arise in the future’**

**‘I am going to describe to you the beginning and end of some situations, and what I want you to do is, imagine yourself in those situations, and tell me *step-by-step* what you think would happen in the middle.**

**‘Does that make sense?’ (clarify instructions as needed).**

**‘Don’t worry if it’s not totally clear because we are going to go through a few examples’**

#### **Warm up exercise**

**“Just as a warm up exercise, we’ll use the example of making a cup of tea. I will give you the beginning of the situation and the end of the situation, and the middle of the situation will involve you telling me all the steps you would take to make a cup of tea’**

*(Present visual aid)*

**So, at the beginning of the situation you are in the kitchen and you decide you want a cup of tea Take a moment to imagine that. At the end of the situation you have made the cup of tea. Now go back to the beginning of situation, start by repeating the beginning of the situation, and talk me through step by step what happens’**

#### **prompts**

**So what would the first step be...**

***If response is limited:* Can you give me anymore details/I want you to imagine all the steps involved**

***If further prompt is required, offer parts of an answer....’So I would see if the kettle had any water in it, then flick the switch to boil it.. Then get a mug...etc...you see how it works? There is no right or wrong answer, I just want you to try to imagine that you are making the tea and talk me through it’.***

***(Offer as much help as is required for the participant to grasp the concept)***

***If response is sufficient:***

**Great. That’s the idea. Now I’m going to try to get you to think of any problems that might arise along the way:**

**1) What would you do if you couldn’t find a clean mug?**

**2) What would you do if there were no teabags? (remember the situation ends with you having made the cup of tea)’**

*Once adequate response is given:*

**‘Great, so that warm-up exercise will be useful when we move on to the rest of the situations. I want you to use the same approach that you just used – imagining yourself there, talking me through it step by step, and thinking of any problems that might arise – and apply to the following future situations.**

**When I describe these situations, I want you tell me anything you think you would feel, say, think or do to get from the beginning point to the end point. We’ll start with a practice**

#### Practice Situation

*(Present visual aid)*

**I am going to describe to you the beginning of a future situation and the end of the situation and I want you to tell me what you imagine the middle will be. At the beginning of the situation, you need to buy some essential food items, but when you arrive at your local shop it’s closed. Take a moment to imagine that. At the end of the situation you’ve bought the things you need. Now go back to the beginning of the situation, start by repeating the beginning of the situation, and then talk me through what happens step-by-step – It’s up to you how you complete the situation, but try to imagine yourself there, include all the details you can.”**

*If required, prompt with ‘Take your time, there is no right or wrong answer’*

*If a response is limited, say “Try to imagine yourself there. It might be tricky, but tell me as many details as you can, and talk me through it step-by-step” or ‘Can you give me anymore details?’*

*If required, prompt with ‘imagine yourself there and take/talk me through the situation’*

**‘try to include all the details/each step involved’**

*If contingency isn’t taken into account prompt with ‘...and if that wasn’t a possibility (or something similar’ ...’*

Then repeat the practice.

If a response including sufficient detail is obtained, say:

**“Good, you’ve got the idea, remember the way you told me what happened step-by-step, including even the small details, and you tried to think about any problems that might arise. Now, I want you to use the same approach to the following 5 short situations.**

**For each of the situations I want you to imagine yourself there, start by repeating the beginning of the situation, talk me through what happens and finish by**

**repeating the end of the situation. Remember it's up to you what happens, I just want to imagine yourself there and talk me through it step by step. I want you tell me anything you think you would feel, say, think or do to get from the beginning point to the end point**

1.

At the beginning of the scenario, you are at home and someone nearby has been making a lot of noise. A friend arrives and the noise stops.

At the end of the scenario, your friend leaves and the noise immediately resumes.

2.

At the beginning of the scenario, you are a guest for dinner and your host makes some food for you with some herbs you don't recognise.

At the end of the scenario, it is later in the evening, there is a strange taste in your mouth and you feel a little odd.

3.

.At the beginning of the scenario, you are sitting in a public place and an older man sits down next to you and starts speaking to you. He is very keen to talk and asks you about yourself.

At the end of the scenario, you are making your way home when you see the man speaking on his mobile phone.

4.

At the beginning of the scenario, you are checking your telephone messages and there are a number of hang ups—someone has phoned and not left a message.

At the end of the scenario, your doorbell rings but when you go to the door no one is there.

- **Allowable prompts**

**If participant is unclear or hesitant:**

Take a moment to imagine yourself there and talk me through what happens.

There is no right or wrong answer; I just want you to talk me through each step you would take in this situation.

What would the first step be?

**If participant gives too general a response:**

Can you give me anymore details, just step-by-step what would happen?

What would the first step be?

**If response is too brief and doesn't take account of all aspects of the beginning/end point**

*Repeat the aspects of the situation that have not been acknowledged e.g. that the bus is late/busy*

**If the response doesn't conjoin the beginning and end points:**

Remember the situation begins with.....

Remember the situation ends with....

**If participant begins to talk of an event in the past**

For this situation could you imagine this happening in the future/the next few days

**If participants says they would not be in that situation**

just for this task, try to imagine that you are in that situation

## Appendix 8: Mental Simulation Task Intent Rating Criteria

**A. Negative Intent:** The extent to which there is evidence that others hold negative (hostile or dismissive) intent towards the respondent within the narrative.

For instance, the narrative may contain the following themes: *wind me up, upset me, paranoid, poisoned me, checking on me, wary, monitored, police*

Score 0 = evidence of negative intent  
Score 1 = no evidence of negative intent

**B. Positive intent:** The extent to which there is evidence that others hold positive intent (kind and caring) towards the respondent within the narrative

For instance, the narrative may contain the following themes: *invitations/invite (unless negative intent clarified later e.g. 'invited me up to poison me'), offers, friendly, helpful, welcome.*

Score 0 = evidence of positive intent  
Score 1 = no evidence of positive intent

For instance, the narrative may contain the following themes: *knock-down ginger, games, pranks, (no ambiguity present)*

**C. Neutral intent:** The extent to which there is neither evidence that others hold positive nor evidence of negative intent towards the respondent within the narrative. Yet, there is clear intent noted.

Score 0 = evidence of neutral intent  
Score 1 = no evidence of neutral intent

**D. Conflict with others:** Within the narrative there is evidence that the respondent is in conflict with others.

For instance, the narrative may contain the following themes: *arguments/arguing, fall-outs, disagreements, shouting, anger*

Score 0 = evidence of conflict with others  
Score 1 = no evidence of conflict with others

**E. Interaction with other(s):** Some reciprocity is noted within the narrative, engagement with others (any reply from others)

Score 0 = evidence of interaction with others  
Score 1 = no evidence of interaction with others



## Appendix 9: Examples of Participant Responses on the Mental Simulation Task

**Scenario 1:** At the beginning of the scenario, you are at home and hear a noise coming from somewhere nearby. A visitor arrives and the noise stops [...] At the end of the scenario, the visitor leaves and the noise immediately starts again.

### Example of no intent present

*I was at home and I could hear a ringing in my ears. It continued for a few hours until my cousin knocked on the door. I opened the door and immediately the ringing stopped. Which I felt very weird. We sat about for a little while talking. Em the ringing didn't occur. As soon as he left it started ringing again which was very worrying. [HCB?]<sup>3</sup>. I don't know, not too sure.*

### Example of Negative Intent (paranoia)

*So, at first I would be like who is that. If I live with people I would think it's my mates. But if I'm not staying with people I would be scared 'cos obviously it's scary to see someone coming knocking at your door. Cos you never know who it might be or hearing footsteps. So I would kind of be, I would not be depressed cos I would easily open the door to see who is there but still. [RepScen]. So I will be scared. I would be scared. It would make me scared cos I'm hearing noises. Yeah it would make me scared a lot. [HCB?]. That would be, that would like weird. Like, it would make me think that my house is haunted or something because obviously you are hearing noises and when someone comes. Em, someone comes the noise stops and when someone leaves you can hear it again. So like, I need to go and see someone. I'm actually, you would, you would call someone straight away to tell them what was happening. And then the person would advise you do to something 'cos that just doesn't happen so. Also you'd be scared, you'd call someone.*

---

<sup>3</sup> Prompt: 'How does that come to be'? (HCB)

**Scenario 2:** At the beginning of the scenario, you are a guest for dinner at your new neighbour's home and your neighbour makes some food for you with some herbs that you don't recognise [...] At the end of the scenario, it is later in the evening, there is a strange taste in your mouth and you feel a little odd.

### **Evidence of Negative intent present**

*Em, cos It's my neighbour and If I've known the neighbour for long [so they're a new neighbour]. Oh they're a new neighbour. So if they're a new neighbour then obviously and they're cooking for me. And at first I'll be insecure cos I don't know who you are. I just come to sit next to you and eat next to you so I don't know what you're going to cook. So, I may. So I'm going to be. I'm not going to be. I'm going to be on my guard so I don't know what I'm going to do like. I might be eating something that might take my life away. You never know. You don't know what people are like. So I'm gonna. So in the middle I'd be just like 'oh my god'. I would be thinking of what to do. Whether I have an excuse to get out of there. Or, what em, what's, what's good for me cos it's me, my life be in danger. I don't know. The person might be a mentlar, the person might be a killer or something. I really don't have any prejudice. And after I taste the food and I kinda of feel odd em, I don't want to eat. Em, anything, even the food. I'm still gonna be on my guard cos the person might be a nice person, they might not know how to cook. So, you never know. I would still be on my guard. [HCB?]. Em, what I would think is that the person might, well. Cos he still goes to the first bit, I don't know the person so it's my first time tasting this food. He might be serving the same thing to other people like and everyone else thinks it's odd. But, I also think 'bout murder, is he trying to kill me?*

### **Evidence of positive intent present**

*So I'm at my neighbour's house, X's house, and she's cooking me dinner. We're about to sit down and eat and she gets out the plates and she serves me the food. It looks lovely. I'm quite excited to tuck in I suppose. So I tuck in and there's a funny taste. I'm not sure what she's used in it but it seems like there's a bit too much garlic in it. I'm still quite happy to be there as it's a nice gesture as normally neighbours don't really do that nowadays especially. So I'm quite happy to be here. And then later on once I leave and I say my goodbyes and I go home. I feel slightly odd cos the taste in my mouth hasn't gone cos of what she put in it. But other than that I was quite happy that I went round the house. I was happy that I was invited around. [HCB?] Beats me to be quite honest with you. I suppose she probably put too much flavours in it. She was nervous herself, that's why.*

**Scenario 3:** At the beginning of the scenario, you are a guest for dinner at your new neighbour's home and your neighbour makes some food for you with some herbs that you don't recognise [...] At the end of the scenario, it is later in the evening, there is a strange taste in your mouth and you feel a little odd.

**Example of Negative and Positive Intent:**

*Usually I wouldn't eat from neighbours or random people I don't know. It would just be my family. But maybe just trying to get, to get to know the neighbours they might have invited my round as a nice gesture (**Positive Intent**). Something inside of me would tell me don't, I don't usually do this so why am I doing it. I'm thinking might as well just be nice so I just go eat some food and that. Then, I realise I'm starting to feel a bit odd. I'll probably think they're trying to poison me or something (**Negative Intent**). Maybe they didn't cook it properly or maybe they've a different style of cooking. Or maybe it's just me I don't usually eat from other people that maybe it's just my mind. [HCB?]. Food poisoning, they can't cook.*

**Example of Neutral Intent:**

*It could just be, eh. Maybe I'd think it was dodgy food. Food poisoning. If I felt odd I'd just go home. [HCB?]. I'd feel sick, the food could be repeating on ya.*

#### Scenario 4

**At the beginning of the scenario, you are checking your telephone messages and there are a number of hang ups—someone has phoned and not left a message [...] At the end of the scenario, your doorbell rings but when you go to the door no one is there.**

#### **Example of neutral intent**

*So, I'm in my house and I'm looking through my phone and I see a couple of missed calls on my phone and no one's left a voice mail or anything so I can't get back to them. So, I'm sitting down and I'm watching TV drinking a cup of tea until I hear the doorbell ring. I walk towards the door. I open the door and no one is there. [HCB?]. Kids playing knock down ginger?*

#### **Evidence of negative intent (paranoia) & neutral intent (playing a prank)**

*Em, if I looked at my phone and I saw a load of missed calls and I don't see no messages I'd be scratching my really head thinking if it was really that important they would leave a text message or voice mail. So that would kind of put me a bit at ease. But at the same time I was thinking maybe there wasn't enough time to leave a message. It might have been urgent, urgent. I'd be like, maybe it'd make me anxious. Especially if I don't have no credit or what not to phone back. So yeah, that would make me anxious really and truly. What was the second part? [Repeat Ending]. Yeah, that would just irritate me really and truly. That would make me angry 'cos I'd have to keep getting up to go to the door and no one's there. Then it's like, maybe am I hearing things or even did they ring in the first place. It would bug me out really. [HCB?]. I would think maybe someone is playing a prank on me or a joke on me. Or he never rang in the first place I'm just hearing it in my head.*

**Scenario 5** At the beginning of the scenario, you can't find your keys where you usually leave them [...] Take a moment to imagine that. Imagine what you or others might be feeling or thinking as you go through the situation. At the end of the scenario, it is several hours later and your keys turn up in their usual place.

### **Evidence of Negative Intent**

*I'd just be frustrated looking for my keys. I'd be smashing things up and stuff. And then when I'd found them I'd be blaming people like asking where are my keys. And then when I'd find them I'd be like normal and just go out. Like, I'm a hot head. I do that all the time. You put them somewhere and you think you've left them somewhere else. [HCB?]. I don't know, just, I've remembered where I've put them. I don't know. They might be in a familiar place. On the side. Normally you leave them like in places when you come in but normally someone moves them. I don't know.*

### **Example of no intent present**

*I lost my keys. I'm thinking where could I put them. And then I'm searching the house. A couple of hours later I find my keys and I'm thinking I couldn't have left them there cos it's in the same place that I thought they was in in the first place. [HCB?]. I must have not been looking properly.*

## **Appendix 10: Events Ranking Questionnaire (ERQ: Keen et al., 2008)**

### **Event Ranking Questionnaire**

#### **Instructions**

**Below are listed nine statements describing events that people may find upsetting. Please read through the statements and decide which one you would find the most *upsetting*. Place the letter corresponding to that statement in the first blank (labelled 1.). Next, decide which situation is *next* most upsetting and place the corresponding letter in the next blank row. Continue with the remaining statements until they have all been ranked.**

**When you are finished, please go back and circle the response in the second column that corresponds to the degree to which you would find the situation upsetting.**

#### **Events**

A. You can't find your keys in their usual place. Later on you notice they are there

B. There are several calls to your mobile and no one has left a message, your doorbell rings but when you go to check no one is there

C. After attending a job interview, the interviewer tells you that they could not make a decision and will need to interview more people

D. You have a conversation with a stranger and later see them talking to someone on their mobile phone

E. Two of your friends socialize without you and without telling you

F. You are at dinner at your neighbour's home and later in the evening you feel odd

G. You are the sole witness to a terrible motor vehicle accident

H. You are at home and you hear a noise coming from somewhere. A visitor arrives and the noise stops

I. After travelling in an unfamiliar area of London, you find yourself part of a situation involving the police

**Please now rate the above statements in the order of how similar they are to the typical worries you have, with 1 being most similar to the type of worries you experience and 9 being the least similar to the type of worries you experience.**

<u>Most to least upsetting (Letters A through to I)</u>	<u>Degree of upset (Circle one)</u>			
1.	Not At all	Slightly	Very Much	Extremely
2.	Not At all	Slightly	Very Much	Extremely
3.	Not At all	Slightly	Very Much	Extremely
4.	Not At all	Slightly	Very Much	Extremely
5.	Not At all	Slightly	Very Much	Extremely
6.	Not At all	Slightly	Very Much	Extremely
7.	Not At all	Slightly	Very Much	Extremely
8.	Not At all	Slightly	Very Much	Extremely
9.	Not At all	Slightly	Very Much	Extremely

**A South London Support and Recovery Team survey of carers' support and mental health needs when caring for a person with psychosis including the proposal of a new psychological intervention**

**Supervised by Dr Sarah Grice**



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## **0 Abstract**

**Background:** The contribution of carers is critical to optimal treatment for people with psychosis. A better understanding of carers' needs may contribute towards improving mental health services for both carers and patients.

**Method:** Twenty-seven carers from a South London Support & Recovery team completed a semi-structured audit questionnaire over the phone. The audit included gathering demographic data, completion of the CORE-10 and the PHQ-9 mental health assessment measures, as well as questions specific to possible carer support services and carer identified support needs.

**Results:** Over half of the carers (52%) were open to either the proposed new psychological intervention or having the 'chance to talk'. Carers with clinically significant mental health needs (19%) were more likely to report poor sleep quality and were largely (60%) in support or already engaged in of psychological support. Qualitative data gathered supported previous research findings and revealed that those in a caring role value emotional and practical support from both professionals and existing supports in their lives. They wished for supports to be available at an early stage in their journeys as carers or during perceived times of crisis and they also endorsed accessible information and advice in relation to their caree's illness that would take the latter's cultural circumstances into account as well as the emotional and psychological impact of being a carer, including feelings of worry, stress, fear and loss. A sense of their identities outside of the carer role not being recognised was also noted.

**Conclusions:** The intervention proposed by the psychology service was found to be acceptable in principle by a substantial number of carers and the results of this audit has supported the development of a trial project delivering short-term psychologically informed support to carers by a carer support worker.

## **1 Introduction**

This section begins with a brief description of psychosis, followed by a discussion on caregiving in psychosis; the rationale for the audit will then be outlined.

### **1.1 Psychosis – definition**

The audit comprised of a survey of carers of service users who were in contact with the North West Southwark Support and Recovery team (S&RT) within the Psychosis Clinical Academic Group (CAG) of the South London and Maudsley NHS Foundation Trust's, Community Mental Health Team (CMHT) for psychosis.

The S&RT supports those with psychosis. The majority of clients have a diagnosis of schizophrenia as defined either by the tenth edition of the International Statistical Classification of Diseases and Related Health Problems (ICD-10; World Health Organization [WHO], 1992) or classified as an F20 diagnosis in the Diagnostic and Statistical Manual of Mental Disorders (DSM-IV; American Psychiatric Association [APA], 2000) and includes the disorders of schizophrenia, schizoaffective disorder, schizophreniform disorder and delusional disorder.

The term 'psychosis' is a term used to describe the presence of 'positive symptoms' of schizophrenia which are also referred to as delusions and/or hallucinations which alter an individual's perception, thoughts, affect and behaviour (NICE, 2009). 'Positive symptoms' may occur in combination with 'negative symptoms' (e.g. loss of motivation or drive, low mood and anxiety). These are usually accompanied by deterioration in personal functioning, which may include thought disorder and cognitive impairment (Semple, Smyth, Burns, Darjee, & McIntosh, 2005), social withdrawal, unusual and uncharacteristic behaviour, and disturbed communication and affect (NICE, 2009). In considering the affective symptomatology of first-episode psychosis Birchwood (2003) has also made a distinction of emotional distress arising from three overlapping processes:

- those that are intrinsic to psychosis,
- those that are a psychological reaction to psychosis and patienthood, and
- those arising from anomalies of childhood and adolescent development, triggered by an emerging psychosis, childhood trauma or both' (p. 374).

The lifetime prevalence of schizophrenia has been calculated at between 0.4% and 1.4%, with an incidence of around 20 cases per 100,000 of the population per year (Cannon & Jones, 1996). However, this is markedly different in Southwark, which is a South London Borough that is noted to have raised rates of psychosis, particularly in Black and Minority Ethnic (BME) populations (between four and nine times higher) (Kuipers, 2011).

After the first year following an initial episode of schizophrenia it has been found that episodes of the illness can remain frequent, with at least 50% of schizophrenia patients continuing to experience psychotic symptoms more than 10 years after onset (Bromet, Naz, Fochtman, Carlson, Tanenberg-Karant, 2005).

## **1.2 Psychosis – impact to the individual**

Although not all individuals who experience psychotic experiences are considered to be impaired by their symptoms (e.g. Murphy, Shevlin, Adamson & Houston, 2010) it can cause significant difficulties in personal, social and occupational functioning for many individuals often across prolonged periods of their lifetime (Milliken & Northcott, 2003, et al., 2004). Approximately 15% of schizophrenia patients display deficit pathology (defined as syndromes characterised by chronic negative symptoms and poor outcome), and this proportion rises to 25-30% in more chronic populations (Strauss, Harrow, Grossman & Rosen, 2010; Kirkpatrick, Buchanan, Ross & Carpenter, 2001). In a study of the personal impacts of living with schizophrenia across six European countries, Thornicroft and colleagues (2004) found 79% remained unemployed and the World Health Organisation (WHO, 1990) estimate that schizophrenia falls into the top ten medical disorders causing disability. Furthermore, one in ten people with

psychosis will commit suicide and two-thirds of these will occur within the first five years of the individual's illness (Department of Health, 2001).

### **1.3 Psychosis – Mental Health Care**

Since the 1950s health care for those experiencing severe mental health difficulties has shifted from institutional to community based care resulting in increasing numbers of those experiencing difficulties living with or having regular contact with their families (Kuipers, Onwumere & Bebbington, 2010; Pitschel-Walz, Leutch, Bäuml, Kissling & Engel, 2001; Lauber, Eichenberger, Luginbuhl, Keller & Rossler, 2003). This has also led to higher numbers of informal carers who are often members of the individual's family providing support formerly delivered by psychiatric institutions (Kuipers et al., 2010; Milliken & Northcott, 2003).

### **1.4 Caring for someone with psychosis**

Within the United Kingdom, an informal 'carer' is defined as an individual who provides or intends to provide a substantial amount of unpaid care on a regular basis for another person who could not manage without this help ([www.carers.org](http://www.carers.org)). Carers will often differ in how they define themselves (e.g. 'carer', 'parent' or 'supporter') and in how they participate in the carer role (Kuipers, Onwumere & Bebbington, 2010). Carers are more often than not family members (Lauber et al. 2003) and, as noted by the mental health charity MIND, they are differentiated from paid professionals who may also support the person.<sup>4</sup>

Research specific to psychosis has highlighted the important role informal carers provide in facilitating recovery and responding to areas of institutionally unmet needs (Fleury, Grenier, Caron & Lesage, 2008; Szmukler et al., 2003). With the recognition of the positive contribution that carers can make to an individual's

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<sup>4</sup> ([http://www.mind.org.uk/assets/0001/7284/How\\_to\\_cope\\_as\\_a\\_carer\\_2011.pdf](http://www.mind.org.uk/assets/0001/7284/How_to_cope_as_a_carer_2011.pdf)).

recovery in the management of psychosis (Kuipers & Bebbington, 1985) there has also been an acknowledgement of carers' needs both in terms of providing support and requiring support for themselves (NICE, 2009). As such, the role of identified carers has become an important area of research within mental health (Fleury et al., 2008) and psychosis (Kuipers et al., 2010; Askey, Holmshaw, Gamble & Gray 2009; Brown & Birtwistle, 1998).

### **1.5 The impact of care-giving and moderators in perceived 'carer burden'**

Recent findings support the evidence that the caregiving role can lead to positive gains in a carer's life such as identifying personal strengths and developing greater intimacy with others as a result of coping with mental illness (Chen & Greenberg, 2004). Nonetheless, there is long-standing evidence that the care-giving role has also been associated with negative psychological and physical well-being (Treudley, 1946; Fadden, Bebbington & Kuipers, 1987; Schene, Wijngaarden, & Koeter, 1998) including sleep disruption which has been associated with depression and anxiety in various caregiver groups (Phillips, Gallagher, Hunt, Der & Carroll, 2009). As Platt (1985) noted, caring can negatively affect well-being and lead to what he coined as 'carer burden'. He defined carer burden as the 'presence of problems, difficulties or adverse events which affect the life (lives) of the psychiatric patients' significant other(s)' (p. 383). Although research into the caring experience now also acknowledges advantageous gains that can be achieved within this role (Chen & Greenberg, 2004), Platt made a useful distinction between problems that can be attributed directly to the person's mental health difficulties as well as problems that are independent to these which can both be understood in terms of objective burden (concrete problems and difficulties) and subjective burden (reported distress).

Following in this vein, more recent research has explored caregiver related predictors that can lead to these negative experiences which include socio-demographic and personality variables such as attributions made about the illness related behaviour (Barrowclough & Hooley, 2003), unhelpful coping strategies

(Laidlaw et al., 2002), poor or decreased social support (Magliano et al., 2003), discrepant illness perception (Kuipers et al., 2007) and high levels of expressed emotion (Bebbington & Kuipers, 1994).

Research looking at the quality of the relationship between people with psychosis and their carers' has also highlighted that both the carer and 'service user' appraise their situation contributes to the well-being of both parties (Kuipers et al. 2010, Chambers, Ryan & 2001, Scazufca & Kuipers, 1996). In particular, Expressed Emotion (EE), defined as the quality of the social interaction between the carer and the service user (Bebbington & Kuipers, 1994), has been shown to play a role in mediating this relationship. High levels of criticism, hostility and over-involvement and low levels of warmth and positive remarks are related to high levels of EE (ibid). This has been linked to increased rates of relapse (Bebbington & Kuipers, 1994, Rutter & Brown, 1966) and higher levels of anxiety and depression in service users (Kuipers et al. 2007) as well as higher rates of subjective experiences of burden by the carers (Raune, Kuipers & Bebbington, 2004).

Integrating this body of research has led to the development of a cognitive model of caregiving in psychosis by Kuipers and her colleagues (2010). They distinguish between three relationship types (i.e. positive, overinvolved and critical/hostile relationships) that are characterised by differences in EE. Within their model, relationship maintenance is understood to be based on the interplay between different factors including carer attributions, illness perceptions, coping behaviour, social support, distress, depression and low self-esteem. Interventions designed to modify these maintenance factors are then proposed as a means of optimising therapeutic change for both service users and their carers'.

### **1.6 Health service provision for carers of those with psychosis**

The updated NICE guidelines for schizophrenia (NICE, 2009) have continued to recommend Family Intervention (FI) as an evidence based approach to supporting



service users and their carers' that should be offered to families of people with schizophrenia who are living with, or in close contact with the service user. The guidelines describe FI as a discrete psychological intervention where family sessions have a specific supportive, educational or treatment function and contain at least one of the following components: problem-solving/crisis management work; intervention with the identified service user. Despite these recommendations, levels of FI in routine care remain low (Prytys, Garety, Jolley, Onwumere & Craig 2010) and are considered underdeveloped due to a shortage of trained therapists and funding allocation (Pilling & Price, 2006). Organisational factors impeding FI development also include lack of support for training, clinical services being overwhelmed with change and the absence of systematic data collection (Prytys et al. 2010). As Kuipers (2011) highlights that 'when services are under pressure, or crisis driven, these longer-term more preventative services are inevitably not prioritized' (p. 72).

Furthermore, despite the acknowledgement of informal caregivers being central to the success of community care for persons with severe mental illnesses (Kuipers & Bebbington, 1985) the research suggests that clinicians and policy makers still know little about the best ways of helping them (Szmukler et al., 2003). This is further reflected within the NICE guidelines (NICE, 2009) where on the one hand carer involvement is emphasised at all stages of service provision whilst on the other hand there is an acknowledgement that carers perceive themselves to be unsupported and marginalised by professional services in relation to the service user's care. Of particular relevance to the current study is the challenge that has been highlighted by researchers (e.g. Kuipers 2011, Askey, Holmeshaw, Gamble & Gray, 2009) of how family-inclusive services should be developed where FI is not available to meet carers' needs.

Alongside specific mental health provision carers are also entitled to 'carers' assessments' by their local social services if they are considered to be offering a

‘substantial amount of care on a regular basis’.<sup>5</sup> Other support services available to carers may include accessing individual support via their own general practitioners (GPs), carer support groups and carer training ([www.mentalhealthcare.org.uk](http://www.mentalhealthcare.org.uk)). However, access to these services can often be dependent on the specific localities within which carers find themselves and the financial provisions allocated to these services. These services are often run by a combination of charities, organisations, voluntary organisations, local authorities and mental health trusts.

### **1.7 What do carers of people with psychosis need from Mental Health services?**

As previously noted, family members of those with psychosis often fall into the role of caregiving when it is needed (Kuiper’s et al., 2010) and frequently feel unprepared, entering into a constant search for support and information (Chambers, Ryan & Connors, 2001). FI hopes to address some of these issues, however, there has been sparse research directly focusing on care-giver outcomes when family focused interventions are offered (Szmukler et al. 2003, Barrowclough et al., 1999). Askey, Holmesshaw, Gamble and Gray (2009) completed a qualitative research study exploring what carers of people with psychosis need from mental health services. They concluded that there are on-going concerns from the perspective of both service users and carers that the basic needs of service users were not being met which was consequently leading to an increase in the carers’ sense of burden. Their findings also reflected previous findings (Repper, Grant, Nolan & Enderby, 2005; Szmukler et al. 2003) suggesting that carers view their needs as interconnected to the needs of service users however they often felt marginalised by services that did not ‘listen, involve or respect them in the care of their relatives’ (Askey et al., 2009, p. 326). Finally, they also noted that both carers and service users wished for consistent information sharing which is noteworthy as a lack of information sharing has previously been understood as a possible barrier to alliance building between carers and mental health professionals (Winefield & Burnett, 1996). Of concern is

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<sup>5</sup> (<http://www.nhs.uk/CarersDirect/guide/assessments/Pages/Howtogetassessed.aspx>).

the knowledge that carers continue to feel disempowered (Repper et al. 2005) in the face of mental health services regardless of carer issues being reflected within the carer literature for over 20 years (Askey et al. 2009).

### **1.8 The rationale for service evaluations with carers**

Service evaluations allow for exploration of how well current services or initiatives within services are working and they can provide valuable feedback that supports service development and improvement. Furthermore, the importance of service user involvement in service planning, delivery, and evaluation, is highlighted in documents such as ‘Real Involvement - Working with people to improve health services’ (Department of Health, 2008) and ‘Good practice guidelines to support the involvement of service users and carers in clinical psychology services’ (British Psychological Society, 2010). Service user involvement in research and evaluation of health services is also outlined within South London and Maudsley NHS Foundation Trust policy (South London and Maudsley NHS Trust, 2007) and, as noted by Tait and Lester (2005), completing this line of research helps to move policy maker ‘rhetoric into reality’ (p. 169).

With this in mind, and as previously noted, the NICE guidelines (NICE, 2009) suggest efforts be made to include carers at all levels of service provision and there is research that highlights the benefits of including carers within the service user recovery pathway when well thought out (Kuipers, Onwumere & Bebbington, 2010; Kuipers & Bebbington, 1985). For example, a meta-analysis of the effect of FIs on relapse and rehospitalisation in schizophrenia reported 20 per cent reduction in relapse rates if relatives of service users were included in treatment (Pitschel-Walz et al. 2001).

However, as previously noted carers continue to feel marginalised by professional mental health services (Askey et al. 2009, Chambers et al., 2001) and those services, which are available are often under-resourced (Insel, 2009). Although access is understood to be limited (Prytys et al. 2010; Pilling & Price, 2006) FI has been highlighted as one means to support service users and their carers

(NICE, 2009). However, regardless of service availability, Kuipers (2011) argues that ‘carers need their own services to be developed’ (p. 69). This may partly be attributed to the reality that service users do not always consent to their information being shared with their carers (Slade et al. 2007) and therefore may also not consent to FI being completed with said carers. Secondly, FI for carers who are considered critical or hostile towards the service user may not always be possible (Kuipers & Onwumere, 2010). Finally, caring for someone with psychosis is related to increased levels of stress and distress (Lauber et al., 2003; Brown & Birtwistle, 1998; Scazufca & Kuipers, 1996) with evidence to suggest that up to a third of carers meet criteria for post-traumatic stress disorder (Barton & Jackson, 2008). Services developed specifically for carers could be a way to supporting this group of carers and, if required, help them access their own appropriate mental health services. Exploring and addressing the needs of carers could therefore not only improve outcomes for those who present to services with psychosis but also contribute to a better understanding of what carers of those with psychosis want and need from mental health services.

### **1.9 Service Context & Aims of the current evaluation**

As previously noted the S&RT supports adults with a diagnosis of schizophrenia, schizoaffective disorder, schizophreniform disorder and delusional disorders as part of secondary care within the community. Their GPs, other health professionals or social services usually refer adults to the service. Each adult is assigned a care coordinator who is a named professional who is designated as the main point of contact and support for the adult who has a need for on-going care. The United Kingdom’s Government ‘care programme approach’ (CPA) for specialist psychiatric services advises that health and social services should designate a person to keep in close contact with a ‘patient’ in the community to monitor their care ([www.mind.org](http://www.mind.org)). The care coordinator is usually a nurse, social worker or other mental health worker and they work as part of a multidisciplinary team, which is comprised of psychiatrists, psychologists and occupational therapists. As part of secondary care, the team will liaise with a service user’s GP

and share responsibility with social services. The team provides each person with their own individual recovery support programme including assessment and treatment services. The aim of the team is to support the individual in periods of crisis and personal stress, reduce the likelihood of admission to hospital and offer a personalised recovery programme ([www.slam.nhs.uk](http://www.slam.nhs.uk)).

The psychological services within the team offers individualised support to adults which includes cognitive behavioural therapy (CBT) delivered by clinical psychologists and/or FI delivered by both clinical psychologists and a FI worker who is a specially trained community mental health nurse. Individuals are usually referred to the psychological services by their care-coordinator and/or psychiatrist. The referred adult is usually seen individually by the psychologist for assessment, which may be carried out through interviews, questionnaires and direct observation after which a treatment plan is decided upon in collaboration with the individual.

Carers of those who attend the CMHT are also eligible for a carer's needs assessment to establish their health and social needs. The care coordinator assigned to the service user who attends the CMHT is also a point of contact for the carer and the carer may be involved in regular meetings and reviews at the CMHT. Psychological support is usually offered to the carer in the context of FI but, occasionally, they may also meet with the psychologist individually or be referred to another service for individual support. The amount of involvement the carer has in developing an individual's care plan within the team is dependent on the amount of information the person they care for is happy to share with the carer (South London and Maudsley NHS Trust, 2013). The reality, however, is that carer involvement through these channels is often limited which could be due to the service provider being unable to implement such approaches due to severe workload, time pressures or the need for more specialist staff (Prytys et al., 2010). This lack of involvement of the carer could be one of the reasons why carers feel marginalised (see Askey et al. 2009, Chambers et al., 2001).

Service evaluations are designed and conducted to review current care (Health Research Authority, 2013). With this in mind it was hoped that the use of a telephone survey would facilitate the collection of information not only from carers who are already in contact with the S&RT but also establish the views of carers who do not have a regular channel of communication with the team. In addition, we wanted to be able to include the views of carers who may not be able to prioritise a face to face meeting for survey purposes but who are more likely to be open to telephone contact.

This service evaluation involves a survey of a sample of the carers of people with psychosis within the S&RT to establish whether they would wish to benefit from personal support from the team and, if yes, what kind of support they would choose to access. The psychology service had developed a potential CBT intervention to pilot on the basis of the evidence base for short-term individual therapy, which has been tailored to the potential needs of carers (Roddy, Onwumere & Kuipers, 2013). By asking the carers about a specific intervention as opposed to an unstructured ‘chance to talk’ the survey hoped to establish the perceived relevance and acceptability of such a service to the carers. By also giving the carers a forum to discuss both other support services they may choose to access, and a platform for general feedback to be provided to the team, it was hoped this review would give a more informed representation of carer needs and wishes.

The carers’ mental health needs were also briefly screened to get an assessment of the profile of carers of people with psychosis which would help inform the team about the level of clinical needs of carers within this specific service.

The carer survey therefore set out to:

- Inform team planning as to whether carer-specific individual interventions would be desired by carers
- Suggest whether a structured intervention would be considered acceptable in principle
- Highlight the level of clinical need within this specific sample of carers
- Inform future psychological service provision to carers.

## **2 Method**

### **2.1 Participant (Carer) involvement**

A total of 27 participants volunteered to take part in the carer survey. Participants were enlisted from the S&RT located in the Borough of Southwark, South London, following ethical approval to recruit from the NHS. The team leader and lead psychologist were approached to gain permission to seek interviewees from their caseload. A short presentation of the research was given at the weekly team meeting and questions from team members were answered. Research information was disseminated to all staff (see Appendix 1 and 2). Care coordinators within the team were asked to identify carers of people with psychosis from their administrative record database and their contact details were obtained from the Trust's integrated electronic system.

The inclusion criterion for participation was to be a self-defined carer of someone with psychosis currently in contact with the S&RT. The carers were informed that they were contacted based on this criterion as a means to improve service support for carers. It was clarified that their involvement in the audit was voluntary but valued.

Of a total of 45 carers whose contact details were available for this audit, 11 did not reply to repeated phone-calls, four declined to take part and three were excluded based on the advice of their current care coordinators (two were

involved with on-going S&RT psychological support and one had a relative attending the service who had recently relapsed) (see Table 1).

Table 1

*Recruitment of sample*

	Number of Participants (%)
Unable to contact	11 (24%)
Opt-out on telephone	4 (9%)
Excluded on professional advice	3 (7%)
Participated in survey	27 (60%)
Total potential participants	45 (100%)

## 2.2 Measures

A semi-structured interview schedule was developed (see Appendix 2) specifically for this survey in consultation with a team of qualified clinical psychologists, within the South London and Maudsley (SLAM) NHS trust, who specialise in work with people with psychosis. Carer survey topics were chosen to address the specific concerns of the organisation and using criteria of clarity, utility and brevity. The interview schedule comprised of 12 items that included: seven multiple choice questions gathering demographic information; two multiple choice questions related to quality of sleep during the past month; one question related to possible future carer service provision with three choices of response; and two open ended questions related to other feedback that the participants may wish to give in relation to psychological support for carers within the S&RT.

When asked the question about possible future carer service provision the carers were informed that psychologists within the service had been working on developing a brief intervention to meet their needs (option 1). They were then asked which, out of the following three options, they would prefer to be offered:



1. Up to 6 sessions giving you the chance to talk about your experiences, give you the opportunity to get some education about mental illness and to look at your own needs, helping you problem solve and guiding you towards other possible support services.
2. A chance to talk about your experiences with someone.
3. Other – whereby the ‘other’ option was to be specified by the carer.

Alongside the interview schedule participants were asked to complete the Clinical Outcomes in Routine Evaluation short-form (CORE-10: Connell & Barkham, 2007) and the Patient Health Questionnaire depression module (PHQ-9: Spitzer, Kroenke & Williams, 1999) as a means to ascertain a basic screen of the mental health status of the carers. A score of 10 or more on the CORE-10 (Connell et al. 2007) and/or the PHQ-9 (IAPT, 2011) is indicative of clinically significant mental health needs.

The interview included open-ended questions to offer participants the opportunity to raise novel topics and to express dissatisfaction (Perreault & Leichner, 1993).

### **2.3 Procedure**

Ethical approval to complete this audit was obtained from the relevant Trust Research and Development Committee (approval reference: IG Ref 126328). Approval was also obtained from the University of King’s College London as the audit was being completed in partial fulfilment of the requirements of a Doctorate in Clinical Psychology. Informed consent was gained from all participants before taking part in the audit.

Participants identified from existing records were contacted by the researcher<sup>6</sup> by telephone to ask whether they wished to partake in the survey. If they agreed to participate they were, there and then, given the opportunity to complete the 15-minute survey or to be contacted at a later date.

Questions were read to the participant over the telephone and responses recorded on the interview schedule. Responses to open ended questions were recorded verbatim by the researcher.

Following completion of the survey the participants were sent further information about the audit as well as a note to thank them for their participation (see Appendix 3). This correspondence also included information about how to contact the researcher or their clinical supervisor should they have had any further questions. They were also informed that consent to participate had been received verbally over the telephone however if they wished to withdraw their information from the audit they were free to contact a member of the research team and/or their care coordinator to do so.

## **2.4 Analysis**

Anonymised data was entered into a spreadsheet (Excel). Quantitative data, including responses to closed questions, was analysed descriptively and is reported as frequencies. A simple content analysis technique (described by Bos & Tarnai, 1999) was used to analyse open-ended questions.

## **3 Results**

### **3.1 Participant demographics**

Of the 27 carers that took part (60% response rate) their ages ranged from 23-88 (mean 56, SD 18.2 years, missing data for 1 participant); 21 were women; 16 were currently living with the person with psychosis; and 24 were blood relatives of the person (two were partners and one an ex-partner).

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<sup>6</sup> who in a trainee clinical psychologist role, formed part of the S&RT

### **3.1.1 Ethnicity and primary language spoken**

Thirteen carers identified themselves as black (nine as African, two as Caribbean and two specified black British); 11 carers identified themselves as white, and three carers identified themselves as other (one North African, one Asian and one as mixed-race).

Nineteen carers identified their first language as English; seven as other African languages (Akan, Amharic, Arabic, Ghanaian, Nigerian, Shona and Somalian) and one as Tagalog.

### **3.1.2 Marital Status**

Of the 27 carers, nine reported themselves to be divorced/separated; eight said they were married; five said they were single; two said they were cohabiting, two said they were widowed and one was married but the spouse lived in the carer's country of origin.

### **3.1.3 Employment status**

Six of the carers were gainfully employed (three part-time, two full-time and one self-employed). Six of the carers were retired, five reported that they were unemployed; one said they were voluntarily employed, one was a student and one identified herself as a housewife. Of the seven other carers that reported an alternative employment status six reported themselves to be full-time carers and one reported that they were on disability allowance.

### **3.1.4 Educational attainment**

Nine of the carers had completed their education by the age of 16 and GCSE/O-level. Seven completed their A-levels and finished studying at age 18. Eight went on to complete university studies (six to undergraduate level and two to postgraduate level). One participant finished their education at aged 14 and

another had completed an NVQ level 4 diploma. There was no data for one participant. Table 2 summarises the demographic details of all participants.

Table 2

*Participant Demographic Details*

	Number of Participants (%)
Number of female participants	21 (78%)
Participant age in years	23-88 (mean 55, SD 18.2)
Identified ethnicity of participants	
- White	11 (41%)
- Black African	9 (33%)
- Black Caribbean	2 (7%)
- Black British	2 (7%)
- North-African	1 (4%)
- Asian	1 (4%)
- Mixed race (black & white)	1 (4%)
Participant's first language	
- English	19 (70%)
- Other African <sup>a</sup>	7 (26%)
- Tagalog	1 (4%)
Marital status of participants	
- Divorced/separated	9 (33%)
- Married	8 (30%)
- Single	5 (19%)
- Cohabiting	2 (7%)
- Widowed	2 (7%)
- Married – spouse abroad	1 (4%)
Employment status of participants	
- Retired	6 (22%)
- Full-time carers	6 (22%)
- Unemployed	5 (19%)
- Other <sup>b</sup>	5 (19%)
- Part-time employment	3 (11%)
- Full-time employment	2 (7%)
Education level of participants (26 from 27)	
- GCSE/O-level/16 yrs of age	9 (33%)
- A-level/18 yrs of age	7 (26%)
- Undergraduate degree	6 (22%)
- Postgraduate degree	2 (7%)
- Other <sup>c</sup>	2 (7%)
- Missing data	1 (4%)
Participants living with the service user	16 (59%)
Participants identified as blood relatives to the service user	24 (89%)
Participants providing care for others alongside the service user	16 (60%)
- Children	10 (62%)
- Other <sup>d</sup>	3 (19%)
- Children with disabilities	2 (13%)
- Partner	1 (6%)

<sup>a</sup>Akan, Amharic, Arabic, French, Ghanaian, Nigerian, Shona and Somali

<sup>b</sup>1 = Self-employed, 1 = voluntarily employed, 1 = Student, 1 = House-wife, 1 = Disability allowance

<sup>c</sup>1 = NVQ LEVEL 4, 1 = 14 years of age / <sup>d</sup>1 = Grandson, 1 = niece, 1 = bedridden partner

### **3.2 Carers' choices on carer support provision possibilities**

The carers were asked to choose from one of the three following options when considering which possible future carer service provision they would like to be offered:

1. Up to 6 sessions giving you the chance to talk about your experiences, give you the opportunity to get some education about mental illness and to look at your own needs, helping you problem solve and guiding you towards other possible support services.
2. A chance to talk about your experiences with someone.
3. Other – whereby the 'other' option was to be specified.

Nine carers (33%) chose the first option and five (19%) chose the option giving them a chance to talk (see Table 3). Of the 13 carers who chose the third option, four described pragmatic supports: Two felt housing support for their relative would be helpful; another underlined the need to have access to support staff when their relative relapses as being key; and finally, one participant described having keyworkers with access to information about their relative as a preferred option:

*'What would be really helpful is to have keyworkers that are accountable, who have access to medical records that need to be shared between different professionals. Our psychiatrist and liver specialist have never met.'*

The other nine participants did not feel they wished for any further support but varied in why they made this choice: Three described getting enough support from existing services and other family members; three described managing well at the present time; and three described feeling extra support would not help or would cause further distress:

*'I get a lot of support from family which helps. I have four children'.*

*'Not now as we are managing, but when it first happened it would have been helpful'.*

*'It can be quite upsetting to talk about his illness.'*

Table 3

*Carers' choices on carer support provision possibilities*

Suggested support options	Frequency
Proposed new psychology intervention	9 (33%)
A chance to talk	5 (19%)
Other - no extra support needed	9 (33%)
Other – pragmatic support	(15%)

### **3.3 Screen of the mental health status of the carers using the CORE-10 and the PHQ-9**

Five carers (19%) scored with clinical mental health needs on the CORE (score of 10 or more). No carers (0%) scored with severe depression on the PHQ-9 (score of 16 or more). One carer (4%) scored with a moderately severe depression score (score of 11 -15). Eight carers (30%) scored with moderate depression (score of 6 -10) and 15 carers (55%) scored with mild depression scores (score of 1 to 5). Only two carers (8%) scored no levels of depression on the PHQ-9. There was missing data for one carer who did not complete the assessment questionnaires.

Table 4 presents the overall scores of carers on the CORE-10 and the PHQ-9.

Table 4

*Carer frequency scores on the CORE-10 and PHQ-9*

Measure	Scores	Frequency (Percentage)
CORE-10	Clinical cut-off (score $\geq 10$ )	5 (19%)
	Missing data	1 (4%)
PHQ-9	Severe depression	0 (0%)
	Moderately severe depression	1 (4%)
	Moderate depression	8 (30%)
	Mild depression	15 (55%)
	No depression	2 (8%)
	Missing data	1 (4%)

### **3.4 Carers' choices on carer support provision possibilities as compared with their mental health status on the CORE-10 and PHQ-9**

A total of five carers (19%) scored with clinically significant mental health needs on the CORE-10, one of which also scored clinically on the PHQ-9 (score of 10 or more) (see Table 5), although 24 (92%) scored as having some level of depression on the PHQ-9 alone. Of the five carers (19%) who scored with clinical mental health needs, two (40%) endorsed the option of a 'proposed new psychological intervention'. The other three chose option 3: One said support would not help; one said they felt 'ok' at the moment and the other said they were engaged in psychological support elsewhere. Therefore 60% of those scoring clinically with clinical mental health needs would wish for or are engaged in psychological support.

Of the 22 carers who did not score with clinically significant mental health needs, seven (32%) endorsed the option of a ‘proposed new psychological intervention and five (23%) opted for the ‘chance to talk’. One carer (4%) from this group said they would be happy with both option 1 and option 2. This suggests 59% of the carers who scored in the moderate, mild or no depression range on these measures would still wish for some psychological intervention from the team. Of the nine carers (41%) who opted for option 3, four described not needing support now as they are coping well and one described feeling they get enough support from their family. One carer said they wished for more pragmatic/financial support, another described wanting more open dialogue between professionals to support them and one said that talking about the son’s illness would be too upsetting. The final carer within this group said they just wanted to know they could contact someone if their relative became unwell.

Table 5

*Carers’ choices on carer support provision possibilities as compared with their mental health status on the CORE-10 and PHQ-9*

Carer option	Number of carers (%)	Number of carers with clinically significant scores*
1	9 (33%)	2 (40%)
2	5 (19%)	0 (0%)
3	13 (44%)	3 (60%)

\*clinical scores on CORE-10 ( $\geq 10$ ) or PHQ-9 ( $\geq 10$ )

### 3.5 Carers quality of sleep

Although 14 carers (53%) considered themselves to have sleep problems once a week or most days, only five carers (19%) reported themselves to have poor quality of sleep. No carers described themselves having daily sleep problems. Of the five carers who scored with clinically significant scores on the CORE-10 or PHQ-9 four carers (80%) reported themselves to have sleep problems most days



(75%) or at least once a week (25%) and three carers (60%) reported their quality of sleep to be poor (See Table 6).

Table 6

*Quality of carers' sleep*

Sleep	Number of participants (%)	Number of carers with clinically significant scores* (%)
No sleep problems in the past month	12 (46%)	1 (20%)
Sleep problems once a month	0 (0%)	0 (0%)
Sleep problems once a week	9 (35%)	1 (20%)
Sleep problems most days	5 (19%)	3 (60%)
Sleep problems every day	0 (0%)	0 (0%)
Sleep quality: Very good/ good/ no problems	21 (81%)	2 (40%)
Sleep quality: poor	5 (19%)	3 (60%)
Sleep quality: very poor	0 (0%)	0 (0%)

\*clinical scores on CORE-10 ( $\geq 10$ ) or PHQ-9 ( $\geq 10$ )

### 3.6 Qualitative feedback gathered from the carers through open-ended questions.

The data collated from the two open-ended questions were amalgamated due to overlap in the emerging themes and for ease of coherence in presenting the findings. The following themes emerged:

### **3.6.1 Theme 1: Emotional and Practical support**

Twenty-one of the carers (78%) spoke about emotional and practical supports that they have already or would wish to have in place which included the following:

#### *Care Coordinator (CC) support*

Fifteen carers commented about CC support (56%) of which the majority noted the benefits of having a good working relationship with their CC that included the CC being approachable and available to them. Comments included *'the CC has been great when things get tough'* and *'having people keep an eye on whether X is taking his medication [...] and speak to him every so often is important'*. Two carers noted some difficulties they view with their CC and made the following comments: *'I can approach the CC but she doesn't have all the answers'* and *'there was no one to give him his depot [when he needed his medication]'*.

#### *Financial and Housing support*

Seven of the carers (26%) noted increased financial and housing support (26%) as something they feel would improve the situation of their relative and their own situation as carers. One carer noted *'I'm going to start work and I feel my son needs more support at home'*. Another carer noted *'X has lost his bus pass and this has isolated him more'*.

#### *Respite*

Three carers (11%) remarked on respite as a possible support to them and one carer noted *'regular breaks are helpful'*

#### *Support with medication administration*

Three carers (11%) indicated that support with medication dispensation and administration would help their situations. One carer noted *'my son has refused taking meds for the past six months. We get in contact with the CC. We are supposed to go to the doctor but [my son] doesn't want to cooperate and that's hard.'*

#### *Someone to talk to*

Four carers (15%) commented on the possibility of having a professional to talk to about their own situation. One carer *noted* 'I have no one to talk to and it's hard'. However, one carer also noted the difficulties for them of talking to a professional remarking that 'I worry that it will dig things up'.

#### *Other emotional and practical supports*

The following comments were made by only one carer each: 'support with her other needs as she is deaf and dumb', 'support by visiting the patient', 'dietary support [i.e.] meals on wheels', and 'consistency with support from agencies such as social workers'.

### **3.6.2 Theme 2: Carer identity and emotional experiences**

Eleven of the carers (40%) commented on aspects of their identity that have been impacted since becoming carers which included the following:

#### *Emotional and psychological impact of being a carer*

Eight carers (31%) noted the emotional challenges they have experienced because of their relative having a psychotic illness, which included feelings of worry, stress, fear and loss. One carer *remarked* 'there is a lot of loss because of things he could have done. He doesn't miss out on things because we include him but there are missed opportunities. It upsets the whole family.' Another commented on how being a carer had 'taken its toll on [their] self-esteem' whilst another noted the 'poor quality of life' that has come with being a carer. Although there was an emphasis on the emotional challenges that being a carer can bring, one carer noted that experience of being a carer over time has helped as they 'can recognise when she is getting unwell'.

#### *I'm more than just a carer'*

Three carers (11%) did not identify with the title 'carer' and one noted 'my role is as his wife too and that is neglected [by services]'. This theme also included the

challenges of being a carer whilst also identifying other roles they hold in their lives. As one carer said *'now I have peace of mind but before it was hard when I lived with her and was worrying about her and the children.'*

#### **3.6.3 Theme 3: Existing supports outside of health service provision**

Nine carers (33%) spoke about supports outside of their health service provision that help them manage the demands of caring for someone with psychosis. This included family support (3 carers) and religious faith (3 carers). One carer spoke of his love for sport and coaching being what best supported him. Another mentioned personal experience of mental health issues helped them whilst one carer commented: *'Hope. One day there will be a change in my son'*.

#### **3.6.4 Theme 4: Timing of the support**

Six carers (22%) reported they felt that more professional support would have been helpful when their relative first became unwell. One carer noted: *'when [they were] first diagnosed it felt like no one would listen to me, no one was there to help at the time'*.

#### **3.6.5 Theme 5: Cultural Issues**

Five carers (19%) noted the desire for culturally specific support that included culturally specific information about medication (1 carer) and care coordinators who spoke their native language (1 carer). One carer commented: *'often a diagnosis is given dependent on race and class.'*

#### **3.6.6 Theme 6: Information and advice**

Four carers (15%) spoke about their desire for more information and advice in relation to understanding their relative's illness, the medication their relative receives and knowing about what supports are available to their relative. One carer commented: *'I have been to workshops about mental illness and I don't feel it's relevant to real life. I don't feel psychologists and psychiatrists know enough about mental illness'*.

## **4 DISCUSSION**

### **4.1 Summary of Results**

Twenty-seven carers from 45 (60%) linked to the S&RT completed the survey. The results indicate that just over half of the carers (51.8%) would be open to either the new psychological support intervention being proposed or to be given the chance to talk. The remaining carers were either open to other forms of pragmatic support (e.g. housing, access to support staff) and felt they received enough support from professionals and friends/family, or felt they were coping well without support. Only three (11%) carers felt that extra support would not help or would cause further distress. Approximately one in five carers surveyed (19%) scored with clinically significant mental health needs on the CORE-10 and/or the PHQ-9 and a significant proportion of these carers (60%) would like some psychological intervention from the team or are already engaged in psychological support elsewhere. The option of a 'new proposed psychological intervention' or a 'chance to talk' was also endorsed by 59 percent of the carers who did not score with clinically significant mental health needs. Clinically significant scores on the PHQ-9 and CORE-10 were also indicative of subjective reports of poor sleep quality.

Carers also gave feedback on the supports that they had, or wished for, in their roles as carers. Many carers spoke of the importance of emotional and practical support that included CC support, financial and housing support, respite support, support with medication administration and having someone to talk to. Support being available at appropriate times was also highlighted by some carers who put greater emphasis on resources being available to them at an early stage in their journeys as carers or during times of perceived crisis. Some carers also wished for accessible information and advice in relation to understanding their relative's illness, the medication their relative's receive and knowing about what supports are available to their relative. A few carers also spoke of existing support structures available to them outside of health service provision including family

support, religious faith and hope, extra-curricular activities and also personal experience of mental health issues helping them to understand the situation.

Alongside support structures, a few carers also spoke about the emotional and psychological impact of being a carer including feelings of worry, stress, fear and loss, and a sense of their identities outside of the carer role not being recognised. Finally, some of the carers spoke about their desire for culturally specific support that included culturally specific information about medication, care coordinators who spoke their native language and frustration with the idea that diagnosis is given dependent on race and class.

#### **4.2 Implications of findings**

A substantial proportion of carers (60%) scoring with clinically significant mental health needs endorsed either the option of a ‘proposed new psychological intervention’ or were engaged in psychological support elsewhere which suggests that a psychological intervention aimed directly at carers could prove successful. This is important as it suggests that a service could be offered to those families where FI is not possible (e.g. because the service user does not wish to participate) and might helpfully focus on the needs of the carer as well as those of the identified patient.

The qualitative data gathered within the evaluation seems to be consistent with previous research findings (e.g. Askey et al. 2009, Chambers et al., 2001), which suggest carers wish for support and information when faced with supporting someone with psychosis at an early stage into their journeys’ as carers. This may indicate benefits to offering some support or psycho-educational information at the first point of contact with carers. Some carers also wished for culturally specific support and information. Although this survey did not directly ask whether cultural issues were appropriately addressed when they had contact with the team it may suggest the need for a more systematic approach or a review of existing ways this issue is addressed within the team. Finally, all carers who reported having ‘poor’ sleep also scored with clinically significant mental health

needs and there may be advantages to routinely asking carers about their sleep patterns as a way of identifying carers who may benefit from further support.

#### **4.3 Impact of evaluation**

This evaluation was used to support the rationale for employing a carer support worker to offer structured interventions focused on carer needs, psycho-education, and signposting to other relevant services. This worker (a psychology assistant supervised by clinical psychologist) is now in post and a research project has commenced to evaluate the efficacy of the role in terms of carer outcomes.

#### **4.4 Limitations of the evaluation**

There are several limitations in the current evaluation including issues related to the survey's methodology and design, which should be noted. One design issue relates to the cross-sectional nature of the evaluation. The results of a snap-shot in time survey may not compare to the results of continuing assessment of satisfaction (Raune, Kuipers, Bebbington, 2004) and information gathered periodically throughout and following contact with the team would be beneficial. The sample was also self-selecting and there was no systematic evaluation of reasons why some carers declined to participate therefore sample bias is possible. Although the response rate for the study was good (60%), there is evidence that levels of dissatisfaction are higher among non-responders (Stallard, 1995) and those who declined to take part may have done so because they had a negative experience of the service or felt stigmatised (Crisp, Gelder, Rix, Meltzer & Rowlands, 2000). However, a balance between obtaining feedback from carers and respecting their privacy was deemed necessary and therefore we did not engage in repeat contact attempts (e.g. follow-up letters, repeated telephone calls).

Following on from this, although the sample was relatively diverse in terms of age, education and relationship to the individual with psychosis, some important socio-demographic information was not gathered. For instance, financial autonomy is known to play a part in social rehabilitation (Fleury et al., 2008) and

there is evidence to suggest higher levels of distress in carers of individuals with first episode psychosis compared to carers of individuals with a longer course of illness (Martens & Addington, 2001). Neither the carers' financial incomes nor their years of caring were gathered in the data and would be worth considering for future evaluations.

It was considered advantageous within this study to include open-ended questions as it has been suggested that specific negative experiences are more likely to be reported in qualitative studies (Avis, Bond, & Arthur, 1997). Although some may argue that face-to-face interviewing is considered to be the 'gold-standard' for gathering qualitative data (McCoyd & Kerson, 2006, p. 389) a review of the literature on the use of telephone interviews has pointed to a lack of evidence to suggest that they produce lower quality data and argues that they may increase the ease with which respondents disclose sensitive information (Novick, 2008). However, although this may have been an economical way to gather data that resulted in a good response rate, carers may have also felt obligated to provide acquiescent responses (McNaughton, 1994). Motivation to participate in the study may have also resulted from their appreciation of the services received and some of the positive feedback provided may have an artificial component.

#### **4.5 Future research implications**

Given a large proportion of the carers endorsed some form of psychological intervention, future research may wish to further pilot and evaluate the efficacy of this approach within the team. Future research may also wish to gather more detailed information as to carers' circumstances (e.g. financial situation or years as carers) to further assess which carers would most benefit from possible psychological support. Furthermore, as it is not clear from this evaluation which carers may best be supported by psychological interventions, regular screening of carers and their well-being may not only identify carers who require further support but may also give valuable information regarding the recovery journey for both the service user and the carers who come into contact with the team. Carers



also spoke of wishing for support early into their journeys' as carers and as such it may prove useful to consider piloting this intervention within early intervention for psychosis services. Finally, as FI is not always possible with carers who are considered critical or hostile towards the service user (Kuipers & Onwumere, 2010) any piloting of the proposed new psychological intervention may wish to evaluate the efficacy of this intervention dependent on carer EE styles.

#### **4.6 Concluding comments**

Overall, the evaluation provided useful information on carer's needs within the service. This has resulted in the employment of a psychology assistant as a carer support worker to offer structured interventions focused on carer needs and this intervention is now also being evaluated through a research project.

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## Appendix 1: Carer Information Sheet

Carer Information Sheet: February 2012

Evaluating carers support and mental health needs.



Please take time to read the following information carefully.

Talk to others about the study if you wish.

### **What am I being asked to do?**

You are being invited to take part in an audit of carers needs. Before you decide whether to take part it is important that you understand why the research is being done and what it would involve for you.

Ask us if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

### **What is the purpose of the study?**

The contribution of carers is critical to optimal care for people with psychosis. A better understanding of carer burden can contribute towards mental health services improving practice to meet carer and patient needs.

### **Why have I been asked to take part?**

We are inviting people who have regular contact with a service user in the team.

### **Do I have to take part?**

No, it is up to you to decide whether or not to take part.

If you decide to take part, you will be given this information sheet to keep and will be asked to sign a consent form. You are still free to withdraw at any time and without giving a reason. A decision to withdraw at any time, or a decision not to take part, will not affect the standard of the care you receive from your team in any way.

### **What will happen to me if I decide to take part?**

The study involves meeting with a researcher or talking to them on the phone for about 15 minutes to complete some questionnaires asking about your thoughts, feelings, beliefs and experiences. You will also be asked your opinion on types of support carers may wish to receive.

The researcher will arrange a convenient time to talk to you to complete the study by phone or in person. It will last about 15 minutes.

### **Will I be reimbursed for any expenses?**

No, you should not incur any expenses as the researcher will either phone you or arrange to meet you when you are next planning to attend the CMHT.

**Will my information be confidential?**

All of your answers to the questionnaires will be kept anonymously and will be identifiable only by a number, not by your name. The information provided will be not disclosed to your relative. With your consent, we will inform your relative's clinical coordinator that you are taking part in the study. The information you give will usually be available only to the research team. However, the researcher will share with your relative's clinical team any important information that is relevant to the care you receive.

**What are the possible risks of taking part?**

It is not expected that participation in the study has any risks. However, if you find any of the questions asked upsetting and would like to talk about this, please talk to the researcher, your care-coordinator or your doctor.

**What are the possible benefits of taking part?**

We do not expect the study to directly help with your care, although some people report finding answering questions useful and interesting. We hope that the research will help to improve services for other people in the future.

**What should I do if I have any problems?**

If you are concerned about any aspect of this study, please speak to the researcher to clarify any queries. If you remain unhappy and wish to complain formally, you can do this through the NHS complaints Procedure. Details can be obtained from the hospital or clinic.

Although we do not expect the study to have any risks, in the event that you are harmed due to the research and this is due to someone's negligence then you may have grounds for a legal action for compensation against King's College London but you may have to pay for your legal costs. The normal NHS complaints mechanisms will still be available to you (if appropriate).

**Who has reviewed the study?**

All audits in the NHS is looked at by an independent group of people, called a Audit Committee, to protect your safety, rights, well-being and dignity. This study has been reviewed and given a favourable opinion by the Joint SLAM/IoP Audit Committee.

**How do I contact the research team?**

Sorcha Mathews, Trainee Clinical Psychologist, ADDRESS & TELEPHONE NUMBER  
Email: [sorcha.mathews@kcl.ac.uk](mailto:sorcha.mathews@kcl.ac.uk)

Researcher Supervisor: Sarah Grice, Clinical Psychologist ADDRESS & TELEPHONE NUMBER  
Email [sarah-jane.grice@kcl.ac.uk](mailto:sarah-jane.grice@kcl.ac.uk)

## Appendix 2: Evaluating carers support and mental health needs – Semi structured interview

### Participant ID

DOB	AGE	Gender
-----	-----	--------

### Ethnicity

- |                    |                |                     |
|--------------------|----------------|---------------------|
| 1= White           | 4= Black-other | 7= other (specify)  |
| 2= Black Caribbean | 5= Indian      | 88= unknown/missing |
| 3= Black African   | 6= Pakistani   |                     |

1<sup>st</sup> Language:

### Marital Status

- |                                     |                       |                     |
|-------------------------------------|-----------------------|---------------------|
| 1= single                           | 4= divorced/separated | 6= other (specify)  |
| 2= married                          | 5= widowed            | 88= unknown/missing |
| 3= cohabiting (living with partner) |                       |                     |

### Employment Status

- |                         |                      |                     |
|-------------------------|----------------------|---------------------|
| 1= employed full-time   | 4= unemployed        | 7= retired          |
| 2= employed part-time   | 5= housewife/husband | 8= other (specify)  |
| 3= voluntary employment | 6= student           | 88= unknown/missing |

### Education

- |                           |                         |                     |
|---------------------------|-------------------------|---------------------|
| 1= primary education      | 4= undergraduate degree | 6= other (specify)  |
| 2= GCSE (O-level), 16 y/a | 5= post graduate degree | 88= unknown/missing |
| 3= A Level, 18 y/a        |                         |                     |

Years spent in education: \_\_\_\_\_

### Relationship to care recipient:

- |             |            |            |           |          |
|-------------|------------|------------|-----------|----------|
| 1= daughter | 3= sister  | 5= partner | 7= father | 9= other |
| 2= son      | 4= brother | 6= mother  | 8= friend |          |

Are they living with the person they care for:      **Yes**      **No**

### Do they provide care for anyone else:

- |             |            |            |           |          |
|-------------|------------|------------|-----------|----------|
|             |            | <b>Yes</b> | <b>No</b> |          |
| 1= daughter | 3= sister  | 5= partner | 7= father | 9= other |
| 2= son      | 4= brother | 6= mother  | 8= friend |          |

### During the past month how often have you had difficulties getting to sleep?

- |                              |                |              |
|------------------------------|----------------|--------------|
| 1= not during the past month | 3= once a week | 5= every day |
| 2= once a moth               | 4= most days   |              |

### During the past month, how would you rate your sleep quality?

- |              |        |                |         |               |
|--------------|--------|----------------|---------|---------------|
| 1= very poor | 2=poor | 3= no problems | 4= good | 5= very good. |
|--------------|--------|----------------|---------|---------------|

Psychologists within our service are working on developing a brief intervention to meet the needs of carers. It involves: a chance to talk about your experiences; some education about mental illness and a guide towards other support services. This support includes helping you problem solve any issues that you feel would be helpful.

Out of the following options which would you prefer to be offered:

1. 6 sessions giving you the chance to talk about your experiences, giving you the opportunity to get some education about mental illness and to look at your own needs, helping you problem solve and guiding you towards other possible support services?
2. A chance to talk about your experiences with someone?
3. Other (please specify)

Is there anything else, as a carer, that you feel would help support you?

Is there anything else you would like to feedback to us?

### Appendix 3: Service Evaluation follow up letter to carers

South London and Maudsley   
NHS Foundation Trust

Service Address

Client Address

**Re: Evaluating carers support and mental health needs.**

Date

Dear XXXX,

Thank you for speaking with me on the phone and giving feedback on the survey to evaluate carers' support and mental health needs. Your information will be kept confidentially and anonymously. It will be used in a report, which will be shared with the St. Giles team to see if there are ways in which we can improve our support to carers.

You gave me verbal consent to participate on the telephone however it is your right to withdraw your information from the survey if you wish. This will not affect the support that you or your relative receives from the team. Please feel free to contact us here at St. Giles if you have any further questions.

Again, thank you for taking my call. I wish you all the best for the future.

Yours sincerely,

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Sorcha Mathews  
Trainee Clinical Psychologist  
Support and Recovery Team